COMMUNICATIONS WORLD

INCORPORATING COMPUTERWORLD ON COMMUNICATIONS

May 1988 The newspaper for the communications professional ISSN 0817-1904

10,000 jobs to go in first wave of two-stage plan

Telecom starts staff cuts

MELBOURNE — Telecom has started "downsizing" its massive labor force, preparing to lay off up to 10,000 staff — mainly linesmen — as the first part of a "two-wave" bid for commercial competitiveness, according to reliable industry sources.

Asked about the alleged scheme, Telecom denied it was doing anything of the sort. Employment manager Neville Betts conceded there had been "some downsizing" already but said it involved at most 500 people. Of these between 300 and 400 had so far been laid off.

According to industry sources, up to 30,000 Telecom staff would be made redundant in the overall plan to turn Telecom into a fighting fit machine.

Betts said that as part of Telecom's change process, in which the monopoly was emphasising "client-based" services, there would be restructuring and a move toward "resource sharing" among Telecom business units.

But he said no decision had been made on large-scale redundancies, nor did Telecom have any contingency plans for doing so in case of any deregulatory decisions by the Minister for Transport and Communications, Senator Gareth Evans, in his May 25 policy statement.

However, Betts echoed earlier union warnings that depending on the nature of the policy decisions, there could be drastic effects for Telecom's 90,000-strong labor force.

The acting general secretary of the 48,000-strong Australian Postal and Telecommunications Union (APTU), Justine Oldmeadow, said the union was confident that plan would be aborted. APTU had threatened "significant industrial action" in talks late last month with the ministers concerned and it appeared that the government would take heed.

APTU, which has some 27,000 members in Telecom, was aware of proposals to lay off up to 10,000 staff in connection with the possible removal of the "first phone" and "lead-in connection" monopolies. But after talks with the ministers the union was "fairly confident the government won't go that way". Her union "wouldn't tolerate" such a move, which could affect some 7000 APTU members among line staff, drivers and support personnel, she said.

She said Telecom had been "very deceptive" about its staff planning, having achieved an "attrition of 3000, some involuntary", during the past financial year. She said Telecom intended to lay off another 3900 staff this year "irrespective of what happens in the May statement".

Independent regulator, VAS on the cards

CANBERRA — The Minister for Transport and Communications, Senator Gareth Evans, is expected to announce an independent regulator as well as complete deregulation of the value-added services market in his May 25 policy statement.

Sources close to the minister's policy review task force said regulation of the industry, both commercial and technical, would be vested in a single independent body accountable to him.

The sources declined to reveal details but said the regulatory agency would not operate within the scope of the Trade Practices Commission.

Instead, the sources said, the task force is going along with the arguments summarised at the recent Atug conference by Warren Pengilley, a partner in the law company of Sly and Russell, who argued that the commission has demonstrated an unwillingness to enforce the Trade Practices Act "even though it believes Telecom is acting illegally in a number of areas".

Other sources close to the deliberations, questioned at Atug in the wake of the minister's "non-statement" there, said users could look forward to getting four things on their wish list:

- Independent regulation;
- Freeing up of the PABX/maintenance market;
- Liberalisation of the private network interconnect regulations; and
- Full deregulation of the value-added services market.

ATUG LOOKS AT THE FUTURE

MORE than 650 communications managers, consultants and industry delegates flocked to the three-day conference of the Australian Telecommunications User Group, Atug '88, in Melbourne last month — a record attendance that was matched by the parallel industry show visited by more than 3000 people. Full story — page 3.

MDS plan spells dollars

MELBOURNE — One man walked away from Communication Minister Gareth Evan's generally disappointing recent Atug address with a big grin on his face: Barney Blundell commented that the speech contained the makings of "a couple of million dollars for us".

Blundell, general manager of AAP Reuters Communications, was referring to Senator Evans' announcement of a new draft band plan for the coveted Multipoint Distribution System (MDS) licences issued by his department, with which AAP has carved out an enviable market niche ever since their rather low-key introduction a year and a half ago.

Assistant general manager Brian Perkins said the company was writing to clients alerting them to the opening up of the MDS bands and advising them that AAP is "ready to provide the equipment" for any new services.

There are 35 applicants seeking 160 licences, according to Perkins, whose company was an early entrant in this field with the AAP Infoservice and a client, Corporate Data Services — the only two operative MDS licensees at this stage. Perkins expected to see new licences allocated as early as June or July.

Evans, noting that his policy review team had been "groping around in a legislative and policy vacuum for the past few months" over the issue, described MDS as "a classic example of the problems posed for the traditional regulatory regimes by new technology."

Applications for MDS licences under the department's Video and Audio Entertainment and Information Services (VAEIS) original policy had greatly exceeded expectations, and "in attractive markets such as Sydney and Melbourne, double the number of licenses available were sought".

Evans said the government

(Continued page 2)

Suppliers jump the gun in NZ

By Stephen Bell

WELLINGTON — Private telephone suppliers jumped the gun on Telecom NZ's May 1 deregulation of the telephone instrument and wiring market — and complained about "unfair" treatment by the carrier.

Small telephone supply shops with imported stocks began selling and installing the phones without waiting to receive the required official "Telepermit", which Telecom NZ began issuing from May 1. The wildcat suppliers faced an advertising campaign warning their potential customers that "If it hasn't got a Telepermit, leave it on the shelf!". But no official sanctions were being taken, even though the ads mentioned a $NZ1000 fine.

A Telecom NZ spokesman said the "reputable" suppliers were due to have Telepermit-equipped phones on the shelves this month even though some retailers say that not all of their models could be manufactured in time.

Telepermit

Specifications for adherence to the Telepermit standard were finished only recently, but a draft has been out since last September.

Draft wiring specifications are out now for industry comment, with the final document expected to be available in mid-May. Again, no sanctions are being contemplated for wildcat installers. A Telecom NZ spokesman said: "If you want Joe the electrician to do your telephone wiring, then we cannot stop him (because he hasn't got the final form of the specification). We're just saying *caveat emptor* (buyer beware)," he said.

A private supplier, Dean Allemann of The Telephone People, was scathing in his comment. "The public is warned of $NZ1000 fines for not having a permit that doesn't exist yet. We have to send off 20 (phones) of each model and it takes four weeks to get them approved through the DSIR. And Telecom still has to give the final approval.

"So they have the hold over their competitors. Every time anyone mentions free enterprise in connection with telephones I just laugh."

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Telecom offers new dialup deal
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Wang's weapon in net links war
Vines used to tie together vendor's Lan strategy
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Switch privacy risks exposed
Tom Amos highlights pitfalls with CATs and Centrex
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Core Report on PABX
PLUS X.25 PADs table and PABX table
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Techway in 'sensitive' talks

SYDNEY — Techway chief Peter Jones, groping for a solution to the "secession" of the group's profitable packet-switching equipment venture, has denied reports that venture capitalists are engaged in an attempt to buy the bulk of the Techway holding.

Dr Jones declined to comment in detail on the reports that Advent Western Pacific has agreed to buy a large slice of Network Automation and Network Research but said Techway was "at a sensitive stage of negotiations". He was "hopeful of a resolution in the next day or two".

In a joint statement with Csironet executive chairman Dr Charles Kent, Dr Jones had earlier announced that the joint shareholders in Network Automation rejected a buyout bid by NA under its former chairman Jess Barber as "well below the true market value of the company".

Instead, they had accepted the resignation of 37 Network Automation staff, appointed Russell Robinson chief executive officer and increased shareholders' funds by more than $1 million. Techway holds 60 per cent of the shares in NA, with Csironet controlling the remaining 40 per cent.

Dr Jones said the next step was to "rebuild the company structure and continue to meet the contractual obligations to customers".

Clients who have bought the company's Ultranode packet-switching equipment include the NSW State Rail Authority and the South Australian Justice Information System.

Tenders are pending with the Prospect County Council in Sydney.

The Barber group reportedly is seeking up to $A8 million to set up shop manufacturing and marketing X.25 gear on its own, possibly through an alliance with Datacraft or its OEM Telematics.

Peter Jones . . . "continue to meet obligations"

Jetset spends $A4m to join automated bookings club

MELBOURNE — Tour operator Jetset has joined the bandwagon of automating agency bookings, spending more than $A4 million this year on tying its major retail outlets into its reservations network.

Most of the money will go toward putting 1000 PC XT-compatible terminals on agencies' desks free of charge. The PCs will be linked to Jetset's central Datapoint-equipped reservations system to give consultant instant access and confirmation of flight and ground content arrangements.

The company said the system, which it claims is compatible with the airlines' TIAS reservation system, will cut much of the telephone and telex traffic now generated by the agencies.

TIAS compatible

Jetset said its travel centres and agents would gain a key advantage over competitors by being able to access the company's global database, Globcom, via Telecom's Austpac packet-switching network. The multi-processor based system has more than 200M-bytes of core memory and more than 6000M-bytes of mass storage containing data on more than 10,000 travel industry operators worldwide, from hotels and hire cars to camping vans and theatres.

Global link

Globcom operates a global 9.6K-bit/sec leased-line system linked through all Australian capital cities, with access to key points in New Zealand, Asia, the UK and North America.

Jetset also offers bureau accounting services to the industry, and said more than 80 agents had chosen to pay $A1270 for a more powerful terminal which gives them access to the accounting system, Star.

MDS plan puts up the $ signs

(Continued from page 1)

found it had to allocate scarce resources between competing applicants "with no allocation process or policy even under contemplation" under an Act that was based on transmitters (carriage) rather than services (content).

After a detailed internal review, Evans told the Atug conference in a video hookup from Canberra, the solution was found in a draft band plan discriminating on the content for which the MDS bands are to be used. If still more applications were received than frequencies set aside under four priority categories, then priority in each category "will be given to services which provide time-sensitive information".

Licence categories had been set in ascending order of sophistication as follows:

1: text and graphics (such as stock and commodity prices directed to brokers, fund managers etc) 2: text, graphics and still pictures (such as real estate information directed to agents) 3: text, graphics, still pictures and sound (such as general information and news "in relation to emergency services. . .", and 4: non-entertainment video, which may also include any combination of text, graphics, stills and sound (such as races and race results, directed to betting agencies, clubs and hotels; or medical material directed to doctors nurses, pharmacists, students and community health centres).

Licences would be issued in these categories as soon as the plan was adopted "after a reasonable period of consultation and debate", said Evans.

A fifth category envisaged in the draft plan is entertainment video "which may include pay TV". Licences in this category might become available after 1990.

Evans commented that "the overall priority order . . . reflects my belief that our responsibility, as good spectrum managers, is to optimise the use of particular frequency bands — in this case to direct usage toward those services which can most effectively be provided using MDS bands, rather than those which could be more easily provided using broadcasting frequencies or cable transmission systems."

Unisys hunts for comprehensive network manager

By Jean Bozman

DETROIT — Unisys is devoting much of its 1988 research and development budget to the creation of a comprehensive network manager that would monitor the flow of voice and data throughout a customer enterprise, according to chief executive officer Michael Blumenthal.

Addressing the second annual meeting of the combined Burroughs and Sperry here, Blumenthal said that R&D spending this year would increase by 20 per cent from last year's $US597 million budget.

"Much of our R&D spending this year will be focused on building a well-developed network manager," Blumenthal told more than 250 stockholders. He did not compare the Unisys product with other network managers, such as IBM's Netview, but it was described as having a similar function.

Unisys's 1987 acquisition of Timeplex is expected to boost overall sales of computer and networking products. "We expect that networking alone will be a $1 billion business by 1990," Blumenthal said.

Another area of R&D spending will involve co-developing a reduced instruction set computing-based computing platform for distributed applications with Sun Microsystems. "The underlies our plan to develop fast, low-cost Unix systems that will rival the power of mainframes," Blumenthal said.

He said Open Systems Architecture represents one key product area in which the $US9700 million corporation could realise revenue potential in the 1990s. "The closed shop is becoming a rarity," Blumenthal said. "No one vendor and no one family of systems can meet all the information needs of a changing (enduser) organisation."

Unisys has been positioning its Unix products as a window on mixed-vendor shops. Last year, the company sold more than $US500 million in Unix systems and expanded its base to 10,000 installed Unix-based machines.

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Australia to join net?

IDG News Service

RYE BROOK, New York — IBM is now offering international network services said to enable customers in the US and 12 European countries to exchange interactive data for the first time with their trading partners. The company is considering extending the network to Australia, but IBM Australia officials said no decision had been made yet.

The services are part of the Intercontinental Information Services product family and will be made available via IBM's Information Network, a commercial value-added network. IBM already offers electronic messaging and batch data transferring to more than 50 countries.

Reportedly, the services allow Information Network users to exchange business information, such as electronic mail, and electronic data interchange-based forms, such as orders, invoices and shipping notices. In addition, users gain access to online databases and applications, IBM said.

US customers will be able to access the services via Information Network's 276 domestic connection points. Overseas users will gain access via attachment to local connection points planned for appropriately equipped host computers and terminal devices.

In addition to the US, these services will be made available in Austria, Belgium, Canada, Denmark, France, Italy, The Netherlands, Norway, Spain, Switzerland, the UK and West Germany.

The services include Virtual Storage Personal Computing (VSPC), Application Systems, Tso, MVS, batch via Tso, RJE and VSPC submits, as well as Professional Office System (Profs)-to-Profs messaging, International Business Service Data Transfer and screen mail, a spokesman said.

Trevor Riddell . . . "exhibitors more than happy"

'Few thought it'd be so big'

By David Beynon

MELBOURNE — The high quality of the 70 stands at the Atug '88 exhibition held in Melbourne from April 19-21 was testimony to the leading stature of this event for the Australian telecommunications industry.

Exhibition organiser Trevor Riddell said: "Few exhibitors expected it to be so big, and all are looking forward to next year. Some exhibitors with small stands want more space next year. There was not one complaint on the exhibition side.

"A lot of interest has come from foreign agencies which anticipate a more open market for overseas manufacturers next year. Trade commissions from the UK, France, Sweden and West Germany feel that Atug'89 should have national stands, and we expect to see a lot of new equipment."

A number of exhibitors who had been at the Comms '88 show in Sydney said they would now go to the Atug exhibitions only because they were "getting the genuine people in". He estimated the exhibition attendance at 4783.

"Right from day one exhibitors were more than happy, they commented on how the show was getting the top-ranking people, the decision makers," Riddell said. Exhibitors had shown "tremendous loyalty" to the Atug show, and next year's exhibition would be "whoofff!".

Among the exhibitors was Tytel's product manager Jeff Lillis, who reported great interest in the Tytel 800 series local-area network exchange (Lanx) — a fully distributed digital PABX comprised only of Lan-linked Lanx handsets. (That is, a PABX with no box.) According to Lillis, the cost of exhibiting will easily be returned to Lanx sales and company profile.

Philips national sales manager Rob Jones was equally pleased with the exhibition launch of the Sopho-S range of PABXs: "People have asked: 'where have you been hiding the stuff?' The most important thing for us was the leads — several (almost) orders have come for this product. Ericsson and NEC people have looked quite concerned on viewing our product."

Other exhibits included Scitec's enhanced Maxima integrated backbone network system and a pre-release version of its PC-based network management system, Fujitsu's ISDN Imagephone and NEC's new Nefax 25.

To boost interest in its range of cellular mobile phones, Autophone offered visitors the chance to win a bicycle. Prize for the tallest stand must go to Telecom which presented its Mobilnet cellular phone service and some of its optical-fibre splicing technology beneath a massive and quietly blinking world globe.

Atug'89 will be held in Sydney at the Darling Harbor exhibition and conference halls on April 18 to 20.

Atug'88 Conference

Waves of Change were dry, wet . . .

By David Beynon

MELBOURNE — It was the week when Melbourne defender Rod Grinter was suspended for six matches and the air traffic controllers staged a two-day strike. The Melbourne sun shone brightly on the "Waves of Change" at the Atug'88 conference and workshop program, where the great debate in Australian telecommunications was dry, wet, dry again, and a bit wet.

Atug'88 speakers quoted Shakespeare and talked of Visigoths.

They tackled policy, told members about new technology, explained network management, and met with great approval from most of the estimated 614 delegates who made it to Melbourne's Royal Exhibition Building over the three days from April 19 to 21.

The only complaints communicated to this observer came from a senior engineer for a State government instrumentality who said: "What was not represented was the comms managers — network management was explained by consultants," and from an Atug member who was disturbed by the tea trolleys which rattled down the adjacent corridor — a partially missing wall being a legacy of the building trustee's tea party which had previously occupied the hall.

Proceedings were officially opened by the Governor-General, Sir Ninian Stephen, and the keynote address delivered in a last-minute video conference call by Senator Gareth Evans, the Minister for Transport and Communications.

Evans gave nothing away about his major policy review and the recommendations of his task force, promising instead that it "hopefully will come to initial fruition in the May (25) statement".

"It is becoming increasingly difficult to live with the seven major Acts and the mass of associated regulations and by-laws that govern electronic communications. The next logical step is a drive towards a single regulatory body and a single regulatory instrument," Evans said.

One of his advisers — Henry Ergas from Monash University — was one of three academics who tackled the question "Is the wave a dumper?", together with Robert Albon of the Australian National University (ANU) and Ian Reinecke from Wollongong University.

> **'A draft of the Hutchinson report, of which there appear to be more leaked copies around than people interested enough to read them. . .'**
>
> *— Wollongong University's resident social conscience on telecommunications issues, describing how local and rural callers may actually be cross-subsidising business users.*

Just as he did in his 1985 report, "Telecommunications and the Australian Economy", Ergas argued that capital constraints are slowing telecommunications development in this country .

"As a share of GDP, Australia's investment in telecommunications is lower than in 1969-70 — both Telecom and OTC require greater and more flexible access to private capital, this need not imply privatisation but could be through project finance, issue of non-voting shares and joint public/private subsidiaries," he said.

Ergas challenged the conventional wisdom which describes cross-subsidies as economically undesirable: "The current thinking in economics is that cross subsidies are more efficient than direct subsidies because they distort resource allocation less than general income taxes, cost less to administer, and allow greater certainty in planning ."

What is needed for regulatory purposes,

(Continued page 4)

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Atug delegates wait for the

Registering at Atug . . . inside, the talk was of Visigoths and deregulation

(Continued from page 3)

according to Ergas, is a specialised body modelled after the UK's Oftel — a move that would be supported by the Telecom powers that be and reportedly is widely acceptable to industry. He put a damper on alleged moves to vest the regulatory authority in the Trade Practices Commission, arguing that the TPC "could not achieve the required critical mass of technical and economic expertise without compromising its role as a generalist body operating across all industries".

An Australian Oftel-type body would provide consistency of decision making, achieve industry confidence and give transparency and unified accountability.

It would ride the ever-changing telecommunications wave, said Ergas.

Suspicion

Did Robert Albon intend to cast suspicion over Ergas' motives by naming him as the man most likely to chair Australia's Oftel? Albon claimed that any such body would be captured by the key players in the industry, and that an enhanced TPC/government department amalgam would be able to fill the role of independent regulatory overseer. Ultimately, according to Albon, a liberalised, market forces-led telecommunications industry would be its own standards regulator.

> **'If free calls (NZ's equivalent to the 20c untimed local call) are supposed to be a way of delivering social assistance, it is a very blunt instrument indeed'**
>
> *— Richard Prebble on community service obligations.*

On the question of provision of universal service in a deregulated (or demonopolised) environment he argued: "There is no causal link between monopoly and cross-subsidy of rural users. The Telecommunications Act with regard to universal service is too vague and there is a strong case for isolating and confining Telecom's social obligations."

The "bush person's benefit", implicit in this Act, should be clearly accounted for, and perhaps funded by a revenue surcharge on urban services. It should not apply universally, but be granted upon satisfactory representations before public hearings.

"Obvious deficiencies can be addressed immediately through internal division and commercialisation of Telecom, independent regulation of; and complete open competition in, Vans and CPEs and radical changes to pricing to reduce cross-

who will do it if Hawke and Evans will not?" Albon asked.

Ian Reinecke reversed the conventional wisdom and asked: "who is subsidising whom?" "In revenue per service terms the hierarchy of Telecom's subscribers consists of the aristocracy that is the institutional users who account for one in six telephone services and the citizens who are the lower orders, although they account for the other five million services," Reinecke said.

He claimed that the 80 per cent reductions in real terms since 1975 for long distance rates is a boon to business users subsidised by rises in the local call tariff in excess of the CPI since 1982 — a cost burden mainly for domestic users. This "reverse subsidy," he said, extends beyond tariffs into the area of Telecom's capital investment :

"The extra $A145 million from local calls in 1986-87 was to be spent, according to Telecom, on the conversion from analogue to digital working with the goal to establish the ISDN. The major beneficiaries being the corporate user."

" For the first time," predicted Reinecke, telephone penetration may be about to fall," as the poor are forced to cancel services.

George Petty, AT&T western region vice president, added to the deregulatory/anti-monopoly clamor: "Since divestiture AT&T has introduced hundreds of new products and services, again illustrating the natural and beneficial results of competition."

Atug's position was outlined by executive director Wally Rothwell, who said: "It is our view that only the PSTN, the basic voice network should remain as a monopoly."

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Until now modems have been an alphabet soup of letters and numbers and features. It seemed that nowhere could you find a straightforward evaluation of modems matching features with price – clearly explaining the differences, and how they affect you. Now Datacraft has cut the confusion, with this new range of highest quality dial-up modems.

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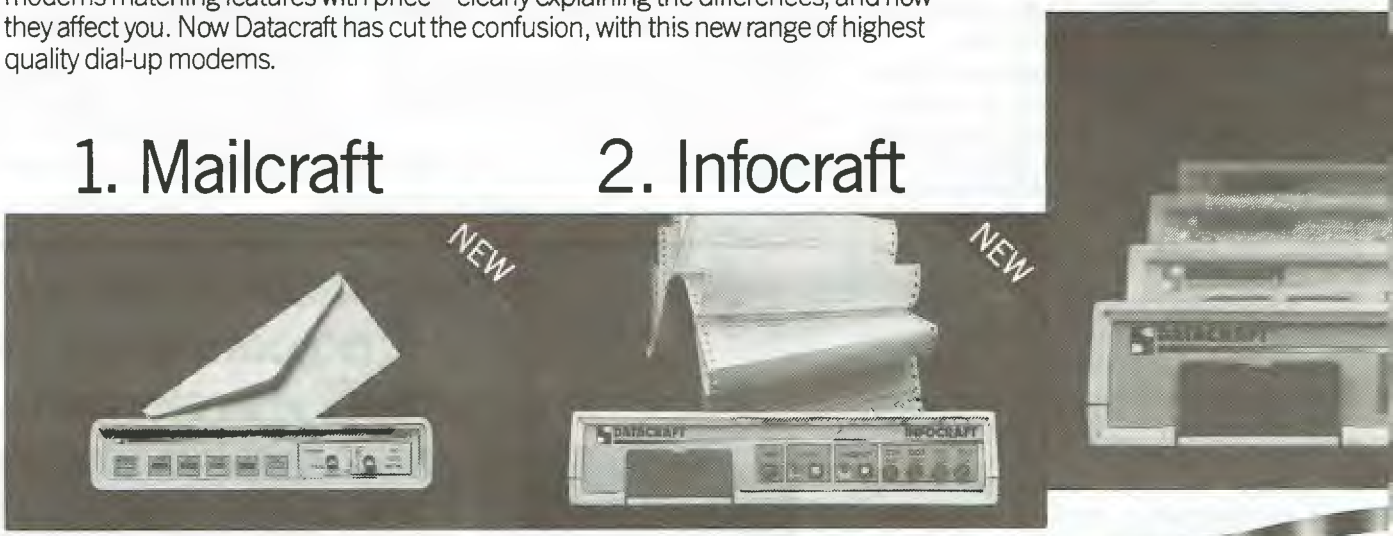

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wave to break

subsidisation. (But) in the light of the opposition's wet approach to deregulation, regulatory reform was that change would not be determined by technical and economic criteria but fought out in the courts. To this debate Peter Leonard, of solicitors Sly & Russell, contributed : "An independent regulator will only be effective if supported by a competition law which companies can invoke without adversely affecting their prospects of obtaining regulatory and type approvals."

Mick Musumeci, the joint federal secretary of Atea/Atpoa, criticised Aussat for being a "lemon", adding it should be merged with Telecom, along with the OTC. In this deregulatory arena, Musumeci said, he found himself in the "unusual" position of defending Telecom.

"I'm usually a trouble maker," he said, then after offering his sources for all to scrutinise and questioning where others got their figures from, he added : "The UK experience has a clear lesson for Atug members — while the large-volume users are benefiting from Mercury's entry, most business users are paying more. In the US the average consumer's bill has risen 30 per cent."

'Taking off the bandages slowly hurts more than taking them off quickly'

— NZ Minister for State-owned Enterprises Richard Prebble, defending his nation's fast deregulatory pace against academic and non-so-academic critics from this side of the Tasman.

Wally Rothwell (on Telecom) . . . 'let them keep voice'

'The same ad hoc approach to policy making . . . brought New Zealand to its current economic predicament'

— Henry Ergas on NZ's 'crash through or crash' deregulation.

On day two the conference turned towards the technology. Bob Swindle of STC Technology (UK) determined that the world would embrace ISDN, but only in the face of stiff competition from other technologies. Telecom's ISDN marketing manager Norman Gale presented two Australian ISDN case studies — ABC and ICI. He argued that the immediate benefits of ISDN were in the removal of functional limitations of the voice system through replacement of the megalinks, analogue tie-lines, and exchange lines.

The topic of network management was tackled by Brian Currie of Amos Aked and Swift, David Hogg of David City Communications, and Ray Reynolds from Aussat. Wayne Bartlett, director, Network Systems Company, McDonnell Douglas Corporation (US) addressed the threats to network security and the need for cryptographic security. American Keith Dunford, director of Spar Aerospace presented TSAT (T-Carrier Small Aperture Terminal), and described it as a technological breakthrough which is cost competitive with terrestrial networks on thin route voice and data communications.

'We are witnessing arrival of a new organisational system that will increasingly challenge bureaucracy. I call it ad hocracy'

— Alvin Toffler as quoted prominently by Telecom Australia in its Flexitel business telephone system brochure.

The program ended on Thursday with the "Atug shareholders' annual meeting" — this title may have been a mistake, lamented Rothwell on observing the many empty seats and vacant floor space. (All other sessions were very well attended.)

The "shareholders" were addressed by Terry Ballard, chairman of New Zealand's Telecom user group TUANZ; saw AAP Reuters Communications general manager Barney Blundell remove his Atug director's cap to give a user's assessment of the Atug "service", crediting it with Telecom's ditching of the data network interconnect levy — which he said saved AAP a lot of record-keeping manpower.

Telecom's Terry Cutler complimented Atug, saying that its support for the timed local calls policy demonstrated maturity in its role of defining the needs of the industry. Bob Mounic, executive director of the Australian Information Industry Association (AIIA) urged Atug members to write to the powers-that-be as they might still be able to influence emerging policies.

'The significant issue in network control is "Can the organisation risk the migration of data communication on to the PABX network?" '

— Brian Currie of Amos Aked Swift, who gives a qualified go-ahead.

Member contributions to this meeting included a call for Atug to address the issue of domestic tariffs which "could become a large club which will beat us to death," and a reply from an Aussat board member who wouldn't allow some "malicious comments" by Atea sources about the space carrier's first operating years go unchallenged.

Kevin Morgan, federal research officer for the Atea, broke up the house with a series of one-liners such as: "If I suddenly disappear it is because somebody has already deregulated this platform" and "We argued that deregulation will lead to job loss but Henry (Ergas) disproved this — look how many jobs he has."

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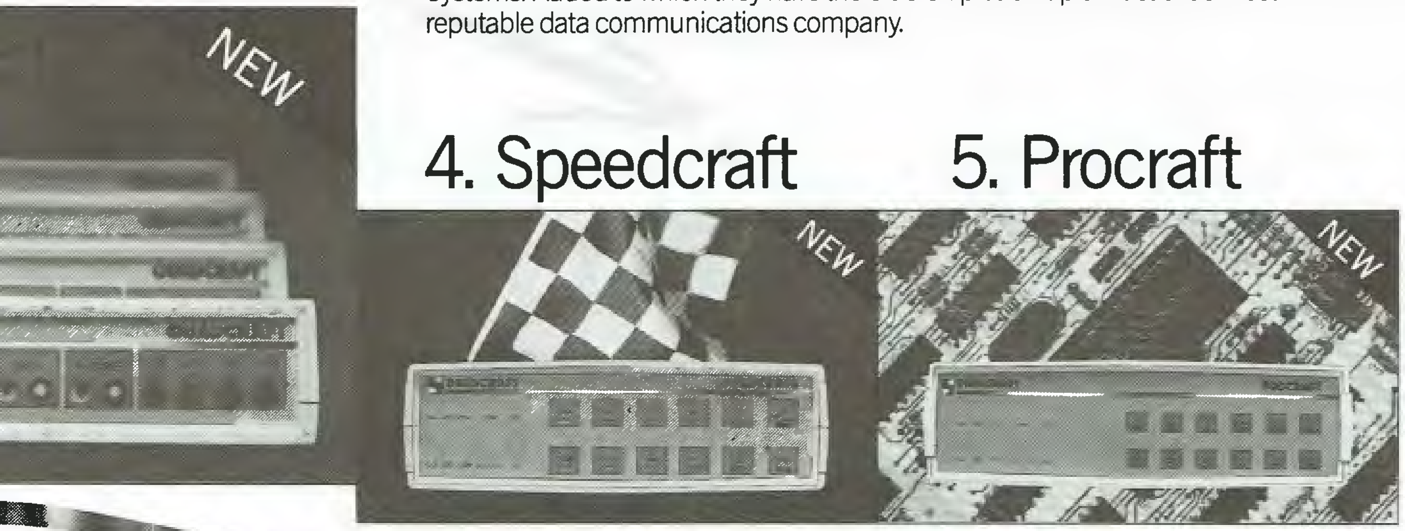
Specified and designed to suit exacting Australian and world-wide standards, the new range was produced in conjunction with world-renowned Concord Data Systems. Added to which they have the blue-chip back-up of Australia's most reputable data communications company.

4. Speedcraft 5. Procraft



frequently exchanges information and data with head office. 2400 bps.

4.Speedcraft Remarkable performance for price: a 4800 bps full duplex modem, with error correction reliability. Which means it's fast. Makes short work of big file transfers like stock reports or hefty documents, with the kind of speed you would only expect to achieve on a leased line. A quad dial-up modem, Speedcraft can call, answer, and select speed, all automatically.

5. Procraft Here's the real professional model: ultra-fast at 9600 bps, for heavy duty work like the daily transfer of bank transactions, large data files or computer graphics. Uses world-acclaimed V.32 Trellis Coded Modulation techniques to enhance transmission. For every conceivable feature, there isn't a dial-up modem to touch this new Procraft. Call Datacraft for brochures detailing the many features of these top-quality modems. Datacraft, or our nearest dealer, will turn choosing a modem from guesswork – into a craft.

*RRP inc. tax. Includes error correction.

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DC644 BEATTY

TOKYO CALLING

NTT launches 'same price' ISDN service

TOKYO — After years of testing and planning its commercial integrated services digital network, Nippon Telegraph and Telephone Corp began the service in three major Japanese municipalilties — Nagoya, Osaka, and Tokyo.

The new INS-Net 64 system has a monthly base charge of 5400 yen ($A58) for offices and 4600 yen ($A49.50) for homes, rates that are equal to existing telephone services.

NTT will extend the ISDN service to 25 other areas in Japan in the current fiscal year, which ends next March. The company also began selling three products for the new network: the Netmate 64 digital telephone for 198,000 yen ($A2130), a high-speed Group 4 digital facsimile machine called the NTTFAX-D4100 for 1.18 million yen ($A12,680) and the AC-ID audio conferencing system for 463,000 yen ($A5000).

Link for Japan, France

FRANCE Telecom and Kokusai Denshin Denwa (KDD) are investigating the possibility of connecting Japan and France through a dedicated facsimile network.

Fax communication between Japan and France uses the public switched telephone network at present.

An agreement is expected soon and services are likely to be offered sometime this year. This will be the first time that facsimile communication between Japan and a European country will be conducted through an exclusive network.

NTT data division

NIPPON Telegraph and Telephone Corp (NTT) has released the preliminary business plan for spinning off its data communications division, which will become the largest company in that field in Japan.

The new company will start with capital of $US80 million and 6800 employees. NTT expects the division to post $US1.8 billion in annual sales.

The plan still must be approved by the Ministry of Posts and Telecommunications. It is also subject to approval by NTT shareholders at a meeting in late June.

System breaks record

NEC has developed a prototype optical communications system that is capable of transmitting 10G-bit/sec of data over a distance of 80km without optical repeaters.

This betters a record held by an AT&T prototype capable of 8G-bit/sec transmission over a distance of 68km.

NEC's system consists of a 1.55-micron single-mode distributed feedback semiconductor laser, an indium-gallium arsenide-based photo diode with an optical pulse detection rate of 10 billion pulses/sec and an 80km optical fibre.

Network widens

INTEC plans to launch an international value-added network business between Japan and the US after setting up a local subsidiary in New York.

The wholly owned subsidiary will also develop software and offer information processing services. The company said it would also establish a subsidiary in Singapore.

DEC takes six basic rate lines

'A reality, and it works' — South Bell

IDG News Service

ATLANTA, Georgia — Southern Bell Telephone Co has launched its commercial integrated systems digital network and announced that Digital Equipment Corp will become the sixth customer on the net.

"ISDN is a reality, and it works," said Walter Sessoms, of Southern Bell's Georgia operations. Several demonstrations were performed to show how ISDN is being used for networking and advanced telephone operations.

DEC plans to use six ISDN lines to demonstrate its products' capability to interface with ISDN at its simulated office and manufacturing application centre here.

Southern Bell, an operating subsidiary of Bellsouth Corp, is providing basic rate service (2B + D) of two 64 K-bit/sec channels and one 16K-bit/sec channel on twisted-pair lines to customers in the Atlanta suburb of Dunwoody.

The companies would not discuss ISDN rates. Each customer is being charged under privately negotiated contracts that are approved by the state Public Service Commission until Southern Bell files its formal tariff.

1.3 x PSTN rate

Illinois Bell Telephone Co became the first US carrier to file an ISDN tariff recently when it announced that a 2B + D service would cost $US246.50 for a one-time installation charge and $US29.68 per month for up to 50 lines. Larger installations will be priced separately. The cost is about 1.3 times the cost of a conventional telephone service. Most ISDN providers are trying to stay within 1.5 times the cost of regular phone service.

In another ISDN development, AT&T has filed with the Federal Communications Commission for ISDN primary rate service to 18 US cities where several companies will conduct an eight-month trial with the high-speed version of ISDN.

Designed for customers of AT&T's Accunet T-1 digital transmission service, the ISDN offering costs $US400 per month plus a $US3000 installation charge per line.

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Trial soon for 0055 dialup service

Telecom to share revenue 50-50

By David Beynon

MELBOURNE — Seeking to "increase network utilisation and profits", Telecom will soon begin a six-month trial of its new 0055 dialup service for third-party information providers.

Initially offering pre-recorded messages, Telecom expects that the 0055 service will ultimately lead to "live advice services".

Telecom will share the revenue from these calls with information providers, who are expected to put on the service top-rate, up-to-date information messages of up to 10 minutes each.

A Telecom spokesman said: "I will not say who are the service providers at this time, but about 20 organisations attended our meeting late last year and others have since come to the party.

"We were hoping that the service would be operating in June, but after a number of holdups, we now expect a late '88 or '89 commencement date. Trials should begin at the end of June."

Brian Endersbee, managing director of participating company Telspec, said: "The bulk of the services will be provided by large organisations such as Consolidated Press who are setting up in Sydney."

Information providers will receive monthly half of the total call revenue generated by their operation. Telecom says it will pay out 53 per cent if revenue over six months reaches the range $A1.5 to $A1.99 million, and 55 per cent for earners in the more than $A2 million league.

"In the UK, where a similar service has been operating successfully, British Telecom asks for only a 20 per cent cut of the revenue," Endersbee said.

In Australian dollars entry into the 0055 network will cost service providers a $240 connection fee per line, plus $1000 a year for line 1, to $600 for line 5 and beyond for Australia-wide access. Rental for statewide access ranges from $700/year for line 1, to $500 for line 5 and beyond, and metropolitan rentals are $400/year and $300/year respectively.

User access to the 0055 information network will be via a nine-digit number, comprising the 0055 access code. State destination, and a charge digit which will determine whether the service is an Australia-wide, statewide or metropolitan in scope.

Callers will hear an announcement advising them about the cost of the call and the type of service that will be accessed. For metropolitan access — that is, when a caller dials a locally provided service — it will cost 33, 67, or 100 cents for three minutes, depending on the service category.

According to the Telecom spokesman: "Timed charging of the (local) metro calls will be achieved by directing all 0055 calls through the city's 10C (trunk) exchange".

Endersbee said: "Telspec has set up a recorded announcement bureau based on the Telspec multi-message system. The equipment will look like a PABX to the network and will choose the message by reading the last numbers dialled. We will set up 950 lines at first."

The Telspec digital announcement system consists of software-controlled solid state modules which handle 50 lines each and use PCM coding to give high quality (digitised) speech recording and playback.

The modules can be expanded to a memory capacity of 30 minutes. Loading of messages can be done either at the equipment or from a remote location using touch tone-actuated PIN code access.

"The beauty of this equipment is that it gives fast feedback, which allows unprofitable services to be indentified and dropped", Endersbee said.

Now then... how's the new call-restricting feature working out?
RING.. RING..

OS/2 features in PC Lan 3

MENLO PARK, California — Dos users of IBM's PC Lan Version 1.3 will find the program provides some OS/2 features as well as improved ease of use and security, according to one of its developers.

Version 1.3, available in July, was announced as the migration path to IBM's Lan Server program, which will be available this November. The program allows Dos and OS/2 workstations to co-exist on a Token-Ring network or PC Net Lan with the Lan Server.

The new features, which IBM calls extended services, include improved security, server transparency, and support for some of the new OS/2 "net" commands, according to Roy Feigel, a PC Lan program developer at IBM's Entry Systems Division, in Austin, Texas.

Server transparency, which IBM calls "single-system image view," means a Lan could have multiple servers, but users only need to log on once and need not realise the other servers are there, Feigel said.

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EDITORIAL

Saga of the samurai drags on

(Continued from March 1988)

WHEN I put the words "to be continued" at the end of my highly encrypted editorial two months ago I was of course being too clever by half: I hoped to blow a whistle without making a sound, seeking to convey the idea that the saga so subtly referred to would follow its commercial course, and duly find expression in the news pages, hopefully of this very paper. Instead, I was hoist on my own petard: having sworn myself to secrecy, I remain bound to mutely watch shadows fight behind the shoji screens. . .

Since no-one ever reads editorials, I may be permitted to indulge further in ad-lib translation of the power play as it appears on my screen: the samurai have since been joined by a freelance Visigoth or two, as well as a powerful Red Indian — and I can discern three, nay, four-cornered jousting centred on the one-eyed giant.

The besieged giant, in turn, appears to have been undergoing a wave of rapid adaptive change, perhaps engendered by gene-splicing experiments. He is now sprouting numerous extra eyes and growing additional arms — obviously in a healthy response to life-threatening circumstances. He is organising his new-found limbs into the equivalent of new divisions. To its allies, and these numbered at least 14 at last count, even though only three or so have openly declared themselves, the monster must appear as a formidable friend; to its detractors, a fearsome foe.

Watching the frantic permutations, however, the rushing to ally oneself hither and thither, the disinterested daimo can only conclude that at the very least the giant is about to shoot himself in the foot, brandishing his new arms as he does — but perhaps may permanently incapacitate himself, and invalidate himself off the field before he and his allies have a chance of levelling it to their specifications.

Far from being — as some pundits would make you believe — the competitive weapons to end all competition, the new alliances, including some deceptive ones with certain of his own miserable minions, tend to be counter-productive, forming a sort of net with which even political Lilliputians can easily immobilise the entire Gullible gestalt. . .

Nor is it lightweights who are now being mobilised among our giant's lords but a capo di tutti i capi, who can be expected to muster the political courage to display potent wavering, statesman-like indecision and his usual opportunistic propensity for rushing into fights that will endanger his friends and end with his falling flat on his face.

All this can only contribute to creating a sufficient number of irregularly distributed bumps on the battlefield, enough to keep all competition on its toes.

Bigger and brighter, but better?

From: Ron Lyth
Artel Computers, Melbourne

MY first impression of the Atug'88 exhibition was the number of exhibitors and the size of the whole thing. Those of us who attended the first exhibition held in 1984 at Melbourne's Regent Hotel will appreciate the extent of support which Atug has attracted to this prestige annual event.

Even the last Melbourne Atug exhibition at the Southern Cross in 1986 pales into insignificance by comparison with this year's show. And the word is that it will be bigger, brighter and maybe better next year when Sydney's Darling Harbor is the host site.

Many exhibitors have stated that Atug is the only exhibition which they will attend in future, and advice from Riddell's, the exhibition organisers, is that many current exhibitors want more space in 1989 to show their wares. If you are selling to the communications industry you should be at Atug'89.

It is usually hard to decide which products are the most interesting, particularly when there are so many exhibitors showing their wares. I must admit that my inclinations lie with the small end of the market and therefore found the purported ISDN products to be only mildly interesting. The problem with ISDN is that it looks like being delivered about 10 years too late, and by the time it arrives in quantity my tip is that true broadband optical fibre reticulation will be impacting on the market.

There were a number of lowend Tims systems on offer and this is a large untapped market which will take off in 1988/89. Most are IBM PC-based and often require no more than a standard serial port for their operation. As a general comment, the products with the fewer bells and whistles and the best user interface will win out. As to which bells to put in and which whistles to leave out I did not see what I consider to be the ideal combination, so there is time yet for other entrants to this market.

For my money the best product of the show was the new Tytel Lanx PABX. This totally Australian-designed product is stunningly simple in concept and extremely well implemented. Do not be surprised to see it take off in a big way overseas because it is at least 12 to 18 months ahead of anything else I am aware of. Now will the Australian market respond and support this Australian excellence by buying the system? I certainly hope so.

One outstanding impression I gained, and others I spoke to agreed, is that too many products are becoming lost in a plethora of features, many of which are unlikely ever to be used, but all of which add to product development time, the cost of production and ultimately, selling price. I have even heard of telephone instruments which come with a 100-plus page operating manual!

Especially in the small business system market (up to 100 speaking points), the number of different features offered makes it much harder for small business users to make an informed decision about the relative merits of different systems. Frequently they are inclined to take the easy option and just get Telecom to give them something off the shelf. There must be big opportunities for someone prepared to offer low cost no-frills systems.

Next year Atug'89 should be bigger and brighter than 1988, but will it necessarily be better? The problems of successful marketing in an industry led by technocrats are substantial. I believe that the industry is concentrating more and more resources into solving engineering problems where what is needed are market solutions which address the needs of users. I would hope that this trend will be reversed and Atug '89 should be a good opportunity to see whether the move has started.

I AM NETWORK-INCOMPATIBLE PLEASE HELP!
Phil Frank

Quotable quote 'not from us'

From: Harry Matthews,
Area Manager, Network Unit,
McDonnell Douglas
Information Systems

I refer to the April issue of *Communications World,* and the page 43 story, "Telecom seeks 'future-proof' network".

The quote contained in the article attributed to Tymnet was not made by any employee of McDonnell Douglas or Tymnet, its US-based subsidiary.

(The quote was not rpt not directly attributed to any Tymnet person, but was made by an industry source familiar with that particular tender. — Ed)

COMMUNICATIONS
WORLD

Editor: Luis Huesch
Associate Editor: David Beynon
Contributing Editors: Tom Amos, Noel Bennett
Production Editor: David Blackburn

Communications World is part of the IDG Online News Service, which includes sister publications *Network World* and *Le Monde des Telecoms.*

ADVERTISING:
National Advertising Manager: Terry Swan
Western Australia: Winkie Corfield (09) 388 1828
Co-ordinator: Janice Jones

CIRCULATION:
Manager: Shirley Ingram
Supervisor: Dorothy Adams

PRODUCTION:
Manager: Max Jaeger
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MANAGEMENT:
Publisher: Luis Huesch
General Manager Barbara Howell

Communications World is published by IDG Communications Pty Ltd

Managing Director: Alan Power
Directors: Patrick J McGovern
Axel Leblois

IDG Communications Pty Ltd also publishes: *Computerworld Australia; Australian PC World; Australian Macworld; Digital World; Government computer news.*

SYDNEY HEADQUARTERS:
IDG Communications Pty Ltd, 37-43 Alexander Street, Crows Nest, NSW 2065. Australia. Tel: (02) 439 5133. Tlx: COMWOR AA74752. Fax: (02) 439 5512.

MELBOURNE OFFICE:
IDG Communications Pty Limited, 74-76 Eastern Road, South Melbourne, Vic 3205. Tel: (03) 690 2933. Tlx: COMWOR AA33926. Fax: (03) 690 4362.

QUEENSLAND REPRESENTATIVE:
Jane Fewings. Media & Advertising Associates, 21 Kirkdale Rd, Chapel Hill, Qld 4069. Tel: (07) 378 4522. Fax: (07) 878 1071.

CANBERRA OFFICE:
IDG Communications Pty Limited, PO Box 21. Waramanga, ACT 2611. Tel: (062) 88 6982. Fax: (062) 889 821.

PERTH OFFICE:
IDG Communications Pty Limited. Suite 8, 272 Hay St, Subiaco, WA 6008. Tel: (09) 388 1828. Fax: (09) 382 3440.

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Communications World is published monthly and distributed to qualified charter subscribers in the communications industry.

Printed by Rural Press Printing, North Richmond.
(045) 70-4444

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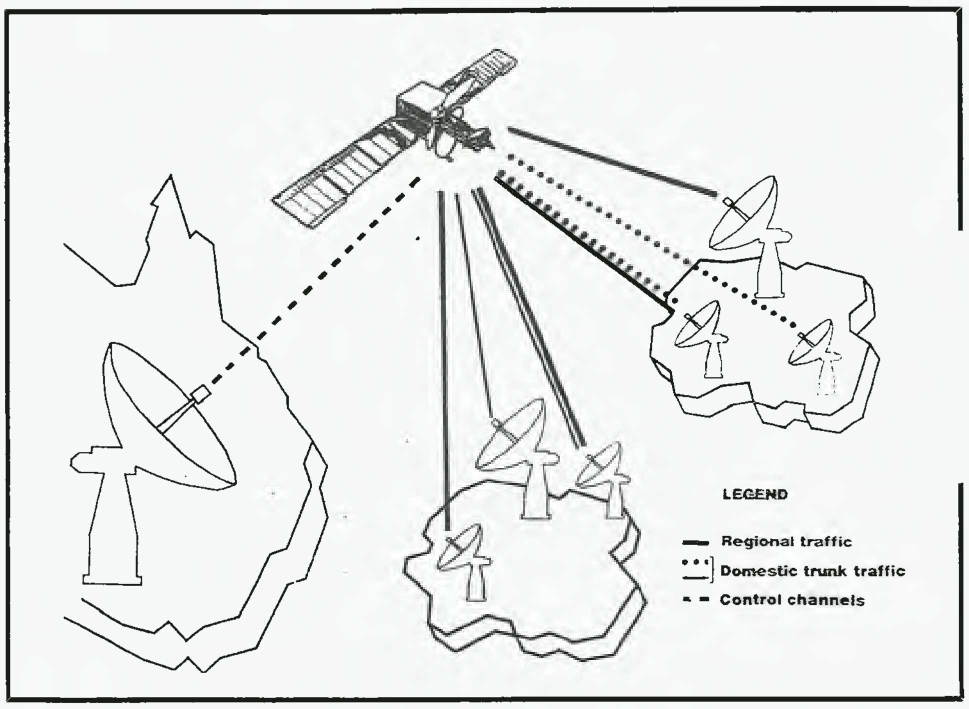

Pacific satellite net plans under review

SYDNEY — The Overseas Telecommunications Commission's (OTC) plans for a regional satellite network serving the Pacific are under review by the management group of the South Pacific Telecommunications Development Program (SPTDP). If accepted at the South Pacific Forum meeting in September, the network is expected to be operational by the end of 1989.

OTC's Pacific corporate development manager, Rod Masterton, said: "OTC's plan includes the establishment of a regional network hubbed in Sydney to provide economies of scale."

Any available Intelsat satellite circuits will be pooled for the whole network and a demand-assigned multiple access (Dama) switch in Sydney will allocate circuits as required. Remote Pacific centres will access the Dama switch via a small-dish earth station which connects to individual subscribers through the PSTN.

International capital city earth stations will be used as the main communications points for traffic with other countries.

Once the Dama centre allocated a circuit, a direct link via the satellite is created between the two users at either end and the Dama centre will serve only to monitor the length of the call.

OTC claims that a main advantage of locating the hub in Sydney is that the Pacific national users will gain access to OTC's submarine cable network.

IEEE eases stalemate on Ethernet

By James Daly

A SIX-MONTH stalemate in the development of a standard for 10M-bit unshielded twisted-pair Ethernet 802.3 local-area networks ended recently when a US Institute of Electrical and Electronics Engineers (IEEE) study group decided to recommend a plan developed by Synoptics Communications, Hewlett-Packard and Wang.

In the approved star-wired setup, twisted-pair transceivers are linked to a wiring hub. The wire then runs to another transceiver, which connects to an attachment Unit Interface (AUI) — a standard, widely installed interface that can be used to connect a personal computer to either a twisted-pair or coaxial cable-based Ethernet. This interface provides users with an easier migration path between existing coaxial networks and the twisted-pair version.

The move followed the withdrawal of the last remaining alternative, a proposal submitted jointly by 3Com and DEC.

'Optimised'

The study group agreed to focus its efforts on a standard optimised for twisted-pair, whereas the 3Com/DEC proposal focused on linking the installed base of coaxial cable-based Ethernets to twisted-pair hubs.

The 3Com/DEC model would have added a thin coaxial cable link to the twisted-pair connection, which could then support up to 25 workstations in a daisy-chain configuration.

The IEEE study group concluded that the 3Com/DEC model was built on the existing Ethernet standard and, hence, was inadequate. "This group should focus its efforts on a standard optimised for direct connection to twisted-pair," the group said in a statement.

"The direct AUI attachment approach uses one twisted-pair to transmit and another to receive. It's a different signalling scheme and a different technology, and the group therefore felt they had a new standard," said Andy Verhalen, director of marketing for the hardware products division of 3Com.

An earlier joint proposal by Chipcom and Lannet was withdrawn last month, and another plan by David Systems was pulled recently.

The AUI plan has been endorsed by a number of companies including AT&T, Ungermann-Bass and Western Digital since its introduction last September.

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MATTINGLY IMA 135

Wang moving to meet link demand

IDG News Service

NEW YORK — Under pressure to demonstrate a local networking strategy for microcomputer environments, Wang Laboratories has unveiled personal computer links for its VS minicomputers and a strategic marketing and development accord with Banyan Systems, whose Vines network operating system is sold in Australia by Datacraft.

Industry analysts said the new products, along with Banyan's networking software, will enable Wang to respond to demand from Wang's installed customer base for networking links to desktop computers.

Under the OEM contract with Banyan, Wang will buy and resell all three versions of Vines under new names. Aimed at the highend of the market, Vines runs under Unix on a network server and supports a variety of local network technologies, including Ethernet and token ring.

"If Wang wants to take local networks seriously, and it appears they do, they needed this type of product announcement," said an analyst for Dataquest.

Wang officials called the relationship with Banyan strategic and said the two companies may conduct joint product development in the future. The officials would not, however, describe specific plans. "There is more to the Banyan relationship than an OEM contract," hinted Paul Demko, Wang's vice-president for communications products.

Under the Banyan arrangement, Wang will offer three network servers, with the two higher end models running the newest release of Vines, 3.0. At the lowend, Wang will resell Banyan's Vines 2.1 under the product name LS-20. The software, which can run on any 80286-based microcomputer, supports three to 12 users and costs $US1895.

For the midrange, Wang will resell the Vines/386 server software package as the LS-50. The software costs $US4995 and can be implemented on any 80386 microprocessor-based personal computer. It will be capable of supporting 10 to 50 users.

At the highend, Wang will resell Banyan's Corporate Network Services server as the LS-100, which supports Vines 3.0. Priced from $US21,995 to $US27,395, the server will support up to four separate networks and 60 users.

The OEM contract will also provide Wang with Banyan's wide-area network links, including an X.25 interface for server-to-server communications across packet-switching circuits.

Banyan already has OEM contracts for Vines with Northern Telecom, Convergent Technologies, Lee Data and TRW.

In an unrelated announcement, Wang released a set of software products designed to allow users to turn VS minicomputers into Dos file and print servers. Grouped under the banner PC/VS Integration Services, the software allows Dos microcomputer users connected to a VS minicomputer via IEEE 802.3 Ethernet networks to access the larger machine's resources.

In addition, Wang's existing Netcore software, which supports VS-to-VS commuications via Ethernet, has been enhanced to support VS-to-microcomputer links across the same network.

A Wang VS workstation plus IBM compatible

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Lan market is set for big growth

IDG News Service

NATICK, Massachusetts — The market for industrial local-area networks is expected to grow 20 per cent a year in the next four years, with revenues topping the $US400 million mark by 1992, according to a recent report by Venture Development Corp (VDC).

Spurring the growth is the need for higher production efficiencies to compete against foreign manufacturers. Industrial local networks are an important weapon in that war, according to VDC market analyst James Brown.

The report is based on surveys of about 200 users and 50 vendors. VDC defines industrial networks as factory networks in such production environments as military and aerospace, which make everything from components and subsystems to the actual ships, planes and tanks; automotive; food and beverages; pharmaceuticals; chemicals; and utilities.

The industrial networks range from cell-level networks used to support programmable controllers — to area- and plant-level networks such as Ethernet and manufacturing automation protocol (Map) nets.

Deliveries of 3+SNA begin

SANTA CLARA, California — 3Com Corp has begun delivering 3+SNA, which is said to provide a gateway between users of IBM Personal Computers, Personal System/2s and compatibles on a 3Com 3+ network and host systems operating in an IBM Systems Network Architecture (SNA) environment.

This capability is critical in larger companies, where users need to manipulate data located across a local-area network as well as gain access to systems and applications residing in a mainframe, said Bruce Backa, a 3Com user and director of micro and technical services at American International Group's domestic brokerage division.

The turnkey product, which includes an intelligent microprocessor-based adapter and software licensed from Rabbit Software is an extension of 3Com's 3+ network operating system.

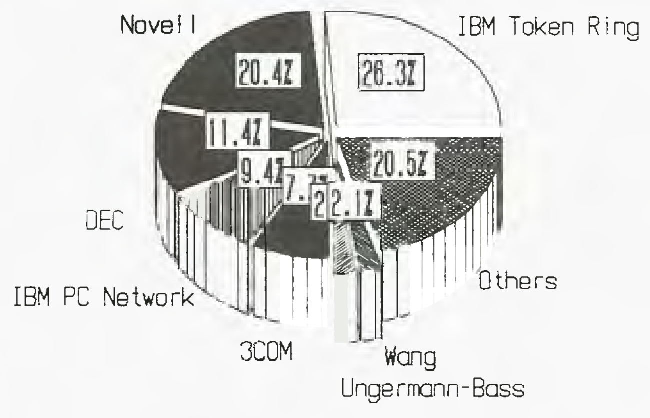
Backa, who heads a regional 3Forum users group, currently uses Rabbit's SNA gateway and gave it high marks. Just 1½ years ago, Backa's installation, which sought terminal sessions, the ability to send and receive file transfers and access to high-level application programming interfaces, could only find one product with that level of functionality — Rabbit's gateway. Since then, IBM, Digital Communications Associates and other vendors have introduced similar products.

3+SNA provides each PC user with concurrent access to up to eight host sessions, one MS-Dos session and one notepad session. 3+SNA also provides a choice of file transfer capabilities and host access at speeds of up to 56K-bit/sec.

A replacement for 3Com's 3+SNA offers display and other 3270 features, including emulation of IBM remote communications devices such as 3270 control units, displays and printers.

Pricing for 3+SNA is $US4995 per gateway with 32 concurrent sessions. An application programming interface option costs $US395. Both are available now.

Trends in LANs: the mainframe connection
(LAN vendors' shares of the IBM/PCM market)



Source: Focus Research Systems. Graphic: Luis Huesch & Ass.

27 products from Alcatel

TEMPE, Arizona — Alcatel's US subsidiary Alcatel Information Systems has announced 27 communication products, including five communicating PCs and two gateways. Local availability from Alcatel STC Australia was not known by press time.

In the US, two 80286-based Courier Processing Terminals (PT) that feature built-in 3270 emulation were to be available this month.

The Courier PT Model 94C/D allows users to conduct simultaneous multiple logical-unit (MLU) sessions.

The diskless Courier PT Model 92G features 3270 all-points-addressable host graphics that are compatible with IBM 3192G and 3179G displays.

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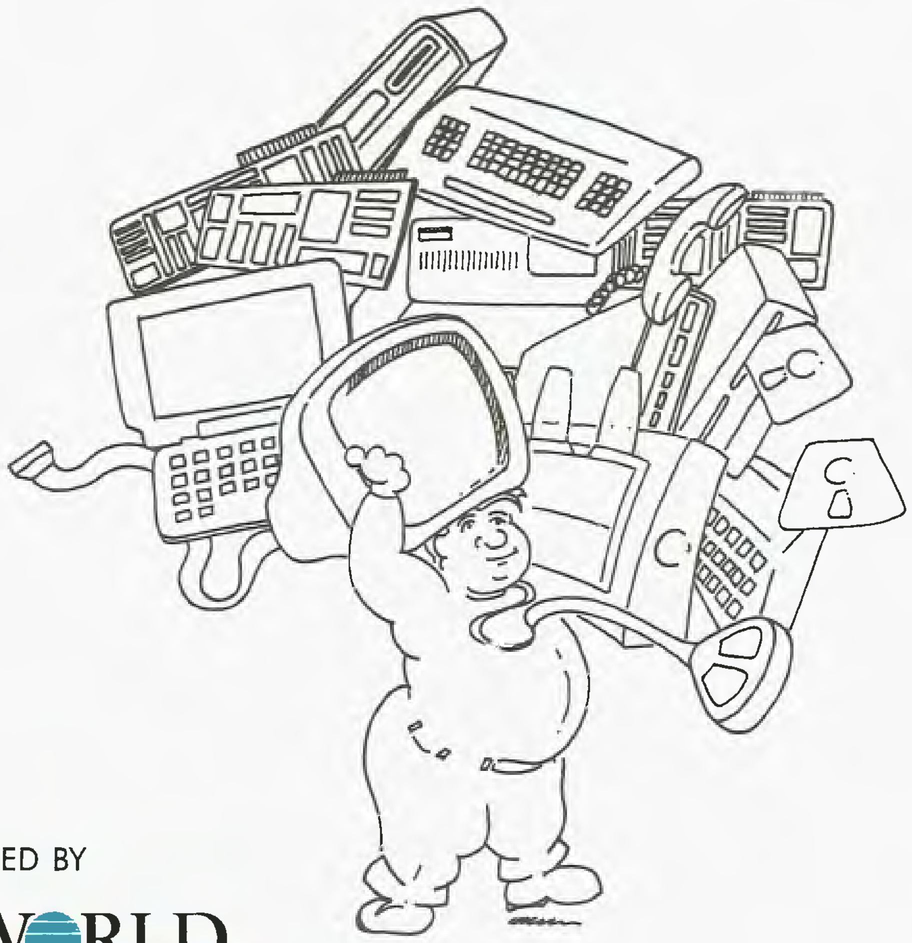

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CORE REPORT: PABXs

Vendors fight for thin pickings

Users stand to take spoils

THE Australian PABX market is once more in a state of flux, with new players jockeying for position during the prolonged run-up to Telecom deregulation, and new alliances shaping up that are aimed to preserve and enhance Telecom's current stranglehold.

In the scenario preferred by Telecom, which now distributes the NEC Neax 2400 switch and the midrange Siemens System 601, third parties will be left to carve up half or less of the small available cake (estimated to be worth $A150-$A170 million a year) among themselves — and the resulting scramble for market share by 10 or 11 vendors can only benefit the user.

At the other end of the spectrum, more and more increasingly potent key systems, including innovative solutions such as the Tytel Lanex shown at the recent Atug exhibition, are eating into the small-business systems market and Telecom's present lucrative monopoly.

The pace of introduction in this field can only accelerate with liberalisation, and purveyers of midrange to large switches will feel the pinch — even though chunks of this particular market may be soaked up by new demand that is not now being tapped because of price/performance constraints on existing products.

In any event, communications managers will increasingly find themselves in a buyer's market, with vendors straining to differentiate what are essentially largely similar offerings.

According to Dataquest research in the US, the domestic market is changing from one that is technology-driven to one that is market-driven. Since the same forces are at work here, the consequences may be expected to be similar: an increasing tendency for vendors to sell addons such as voice messaging and automatic call distribution, features upgrades, value-added services including customer support (spelled maintenance in Australia, eventually) and complete network design.

Network management, too, will help differentiate the various vendors, and here, interesting developments are shaping up such as Hewlett-Packard's Openview, for which HP is reportedly getting Northern Telecom and AT&T to provide interface compatibility.

In addition, there will be a further shakeout involving alliances, acquisitions and mergers, according to Alastair James, senior researcher with IDC Australia, who described the current market outside the Telecom distribution as "thin pickings".

Dataquest analyst Greg Carlsted argues that a company has little chance of breaking into the saturated PABX market without a product embodying "a quantum leap in technology". As a possible example of such an advance, he cites US government data comms supplier Compunetics.

That company, which is one of the rare PABX makers still employing space-division multiplexing rather than time-division multiplexing, has patented a new engineering scheme said to achieve asynchronous data rates in the 2M-bits/sec range and is going for video capable 3M-bits/sec bandwidth for a switch optimised for conferencing and broadcasting. According to a company spokesman, a 4096-port system using the new scheme will be installed next year at the Nasa Goddard Space Centre.

It is claimed to be capable of setting up any number of conferences with any number of participants. The participants will be able to talk and listen, talk only, or listen only. The number of participants is limited by the port size of the switch.

Selection painters

With features such as this looming on the horizon, how do comms managers determine they are not buying a switch that will be obsolete in a few years? Our US sister publication *Network World* recently quoted an American Peats Marwick manager for some pointers in the right direction.

Users should look at five points:

☐ Compatibility;
☐ Obsolescence;
☐ Capital investment;
☐ Control, and;
☐ Integration of technology.

Specifically, users should determine if the switch is compatible with their companies' current and future needs, and whether the technology is obsolete or past its useful service life.

According to this manager, a switch has three lives: an operational life of 10-12 years (in which it remains mechanically sound); a functional life of 5-7 years (in which it continues to meet functional objectives) and a real-world life of 4½ years (defined by physical relocation, growth, acquisitions and mergers).

For managers requiring multiple networked switching systems and ISDN readiness, switch maker Mitel advises: "look for a manufacturer's ability to provide at the desktop both voice and data on a single pair of wires at rates up to 64K-bits/sec, with a separate channel for signalling (2B+D).

"At the digital trunking side the switch should provide 30 clear 64K-bits/sec channels plus 2 separate 64K-bits/sec channels for signalling. This provides virtual transparency in a private network and leads to an easy migration path for developing ISDN applications."

Selecting a digital PABX, whichever way you look at it, is not a trivial matter — certainly it should not be left to the office manager or even secretary, as has reportedly been the practice among a number of senior (non-comms) managers in this country. Our comparison table of PABX features (p14) however, would come in handy even in such a situation.

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Product update on digital PABXs

Make	Distributor	Model	Min/Max # of lines	Line expansion increment	Max. # time slots	Busy-hour call attempts	Max. # of non-blocked calls	Host interface	LAN interface	Data rate (asynch/synch) K-bit/sec	Messaging Voice	Data	Redundancy	Modulation	Min/Max. cost/line	Comment
Alcatel STC	Alcatel STC	ITT 5200 BCS	100/2000	4, 8 or 16/card	2048	>60,000	13,200	Coax elim., Ethernet, RS232C	Ethernet, RS232C	19.2/64	v	v	Optional	PCM	TBA	ISDN upgradable
Ericsson	Ericsson	MD110	30-20,000	8 lines/card*	512 per I/F module	2160 per I/F module*	20,000	RS-232C, V.35, V.110, 2Mb/sec	3Com+, Ethernet, Token Ring	19.2/64	integrated	v	Optional	PCM	POA	*up to 255 I/F modules
Mitel	Teletrade Services	SX-50	16/28	4. 8 or 16/card	320	900	160	N/A	N/A	19.2	N/A*	N/A	Nil	PCM	POA	*External voice msg server
NEC	NEC/Telecom	NEAX2400 IMS	32/23,184	4, 8 or 16/card	24,192	99,200	23,184	RS232C, V.35 & app. specific	Ethernet, RS232C, X.25 Omninet	19.2/56	v	v	Optional	PCM	POA	ISDN & OSI upgradable
NEC	NEC	NEAX2400 SDS	32/512	1 or 2/card	512	1055/128 ports	256	RS232C	TBA	19.2/64	v	v	Not required	PCM	POA	Available July
Northern Telecom	AWA-Nortel	Meridian SL-1	32/5000 voice, up to 2000 data	4-16 lines/card	5120	28000	1800	IBM, Sperry, Wang, DEC, DG	Ethernet, RS232, Appletalk, RS422	19.2/64	v	—	Standard	PCM	$200-$1000	—
Philips	Philips	Sopho-S250	20/250	8 lines/card	128	9000	—	V.24	Sopholan	19.2/64	v	v	per shelf	PCM	Varies	—
Philips	Philips	Sopho-S1000	20/1000	8 lines/card	512	9000	—	V.24	Sopholan	19.2/64	v	v	per shelf	PCM	Varies	—
Philips	Philips	Sopho-S2500	20/20,000 multimode	8 lines/card	3072/mode	10,800/mode	—	V.24	Sopholan	19.2/64	v	v	standard	PCM	Varies	—
Plessey	Plessey	ISDX	32/5000+	8 or 16/card	512/node	20,000/node	512/node	RS232C, X.21, `ECMA-106	Ethernet (ECMA-106)	19.2/64	v	2B+D	Optional	PCM	POA	X.25, Primary Rate, ACD, CCS integral
Rolm	IBM-Aust	VSCBX/CBX11	80/830	8 or 16	384 one way	10,000	165	5250, SNA, RS232C	RS232C	19.2K async, 64K sync	v	v	Optional	PCM	TBA	—
Siemens	Telecom	System 601	40/800 (max 1500 dual syst)	4 or 8/card	922	10,000	890	DMI, RS232C, (X.25 g'way due)	RS232C	19.2/64	v	v	Optional	PCM	POA	Call queuing, data call interrog. 2M-bit links
Tadiran	Intercorporate Comm.	Emerald	4-36	4/card	12/link	—	—	—	—	—	—	—	—	Crosspoint	POA	—
Tadiran	Intercorporate Comm.	Coral I	16-64	4 or 8/card	128	10,000	64	RS232C	RS232C	19.2	TBA	v	—	PCM	POA	Available end '88
Tadiran	Intercorporate Comm.	Coral II	24-160	8 or 16/card	128	10,000	64	RS232C	RS232C	19.2	TBA	v	—	PCM	POA	Available end '88
Tadiran	Intercorporate Comm.	Coral III	80-720 (& multiple)	8 or 16/card	512	10,000	256	RS232C	RS232C	19.2	TBA	v	Optional	PCM	POA	Available end '88
Tytel	Tytel	800 Series	1/16	By handset	32	N/A	16	N/A (planned)	—	—	TBA	TBA	—	PCM	$800-1050	Cost per equipped end $600-800

CPI = Computer to PABX interface; DMI = Digital multiplexed interface; ISDN = Integrated Services Digital Network; PCM = Pulse-code modulation; SNA = Systems Network Architecture; TBA = To Be Announced; N/A = Not Applicable.

Dialling the future: the PABX of 2001

Alvin Toffler's challenging book *Future Shock*, proposed that the only thing certain about the future is that it will surprise us. But is this necessarily true, particularly in the arena of business communications systems, or PABXs? Is it possible for a purchaser of a PABX system today to have some reassurance that he or she will not be subjected to future shock at some later time? In this paper Ericsson Australia's assistant technology director, Peter Brown, describes the PABX of 2001 in terms of a number of major system and user features.

"In thinking about the future, it is better to err on the side of daring than on the side of caution".

— Alvin Toffler

THE totally distributed concept of system architecture will be firmly in place in the PABX of 2001. Even today this architecture is used in systems such as the Ericsson MD 110. The evolution will be towards total distribution, with the distinction between PABXs and Lans blurring even further. There will be no requirement for a central PABX room, since there will be no bulky central equipment.

The modules of the PABX will be autonomous line interface modules (Lims), each with its own single-board 32-bit microcomputer. The Lims can be considered as "wiring concentrators" and will be situated wherever concentrations of voice and data terminals occur. They will normally be placed in an open office environment with no special requirements for air conditioning or power.

The Lims will be interconnected by optical fibres which will interface directly into an optical line terminating board in the Lim and which will transport digitised voice, formatted data and inter-processor signalling between Lims. There will be no need for an inter-Lim switching device since the switching is performed on the fibre using techniques similar to the IEEE 802.6 methods pioneered by QPSX. The fibres will run in a "looped multi-drop star" configuration that ensures that no single failure can cause loss of service.

The distributed architecture at the system level will be reflected at the network level. At the system level there will be autonomous Lims interconnected by high-capacity inter-Lim links supporting intelligent signalling, but the network level will have autonomous systems interconnected by high-capacity inter-system links also supporting intelligent signalling. In this case, the signalling will follow the international ISDN standards set by CCITT.

The same features, such as transparency of facilities over the distributed structure, the resilience against faults and efficiency of transmission resources apply at both the system and network levels.

The PABX of 2001 will allow the rationalisation of wiring even further than that provided inherently by the Lim. Voice and data terminals will have wireless connections to the Lim, using a duplex time-division multiple-access (TDMA) scheme in an office microcell environment. High bandwidths will be provided to each terminal allowing image transfer, high-speed data and Lan bridging.

The multiplicity of telephone types — some general purpose and some specialised — found in today's PABX, will be replaced by a smaller number of easy-to-use intelligent low-cost voice/data workstations which will be programmed as required to suit the particular user's need. They can be programmed as executive workstations, secretarial instruments, ACD agents or operator consoles.

The general-purpose workstation will in-

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Dialling up the switch of 2001 . . .

clude such features as a screen display with full graphics capability, a builtin data adapter and support for services such as facsimile.

The PABX of 2001 will provide a far more user-friendly interface to the system manager at two important levels: at the PABX itself and at the support system level.

Users will no longer have to accept a standard off-the-shelf software package that may or may not suit their business operations. The PABX will have a high-level intelligent system interface to allow a high degree of user selection and customising of the available system features.

User control

To achieve this, it will have an easy-to-handle and modular software structure, built on advanced software techniques such as declarative programming. These techniques increase the productivity of error-free software design and allow easier handling of software systems.

The other intelligent user interface is into the support systems. There will still be a requirement for support systems since the PABX will be even more so a specialised and efficient switching machine. An intelligent and open software gateway between the PABX and the range of support systems will allow the user to choose the support systems they require for their business purposes, to tailor the applications to their particular needs and still be assured of full integration with the PABX.

Examples of support systems are directory services, text and voice messaging services, call accounting, inventory and works request management and system management. By isolating these in a separate processing environment from the PABX, it allows full user access to the applications.

System management

The PABX of 2001 will provide a powerful capability for the automatic identification and correction of fault conditions. This power will extend to the monitoring and reporting of system use in the normal operational case. The inherent power of the PABX will be further enhanced by specialised support systems that will be particularly applicable to management of networks.

These same support systems will provide a bridge towards the data processing environment that will already exist in most organisations. A typical bridge will be into the Netview application in IBM mainframes and in this case the PABX support session will support an SNA application running in a peer-to-peer session with Netview. This technique will allow visibility of the PABX environment from the mainframe environment, a necessary condition for an organisation to commit mainframe data links to the PABX network.

We cannot describe the PABX of 2001 with precision and certainty, but enough is known about technology advances and user demands to present a first approximation. This can be used (and continually refined) by users to ensure that the path they are taking now and the investments they are making will not lead to future shock. Alvin Toffler summarised the importance of this first approximation:

"It is more important to be imaginative and insightful than to be 100 per cent right. Theories do not have to be 'right' to be enormously useful."

PABXs: new Trojan horses?

By Tom Amos

TELEPHONES provide the lifeblood of telecommunications, accounting for the bulk of expenditure and the users' ongoing perception of a system and service. In a new age of networked telecommunications services, where telephone facilities are available in a universal network, most users and communications managers take it for granted that the configuration and maintenance of such a network is secure. But is it when the very heart of the control centre is open to phone enquiries?

Most people are familiar with the security requirements imposed by talking on a telephone. Even politicians have learnt the bitter lesson that unless elaborate precautions are taken, low security should be assumed on the content of a call. Unfortunately, the same is also true for control of the most sophisticated private and public networks which actually provide the mechanisms to make these calls in the first place.

In Australia, Telecom maintains and operates almost all private switching systems. It thus also controls access to the facilities management system, the heart of any voice and data switching system. Although this arrangement is now under review, with most pundits predicting a change towards more user control, direct access to the customer access terminal (CAT) of PABX is the key to network security and ongoing integrity.

Of course, if the PABX is used as both a voice, data switch and integrator then more corporate exposure is now made possible by the new voice data technologies and their indiscriminate application. This is a sorry state as potential business damage can be wrought by the casual hacking of the PABX or determined sabotage via the CAT access.

Modern switching equipment has become very sophisticated with the current generation switches digitising and providing a full range of services, all controlled by a central control system computer which is accessed through this CAT standard terminal.

With well over 100 separate functions and facilities able to be set for various classes of telephone user, from tie line access to follow-me, call barring and grades of service access are very much at the heart of the operation of these modern switches,

(Continued page 16)

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(Continued from page 15)

Privacy risk in Centrex revealed

or more aptly Trojan horses. Similarly, the newer central services, offered by Telecom on public telephone exchanges and known as Centrex-type services, could be even more vulnerable. These central systems can perform similar functions to those offered by the private PABX networks.

How can a secure network or a system constructed within it, a Virtual Private Network (VPN) — be it a large central system or a Centrex network — be guaranteed to provide the services and functions as desired by the operator? Can the system be manipulated by others to provide services and operations not initially intended?

The sophisticated control systems are commonly programmed by the user to optimise the requirements of the particular organisation to match the user needs for cost-effective, timely communications. Thus, changing by various means the class of service of an individual user on a large system may thus not seem like a big deal, yet ISD access is now available where it was not before. Extend that up to changing all the classes and service categories on a large system and catastrophic effects to a business organisation can be wrought. And you thought cable cutting and common routes was bad news!

Before thinking more on these problems, a few words about privacy and the Telecom Centrex service — one important class of emerging services. The idea is not new: to give customers or users all the facilities of a modern electronic PABX system without the bother of having to run them or the expense of purchase. Centrex, provided from digital telephone exchanges within the public network, is dedicated to the services along with the concentrator located instead of the PABX at the customer premises. Centrex provides most PABX facilities such as conference calls, abbreviated dialling, call forwarding, and interworking with existing PABXs. It can also effectively provide an offsite CAT access in no way under the user control or supervision. In this light, Centrex can be seen as a rather retrograde step for any network manager who is security conscious or depends on multifaceted circuits through a central control system.

Apart from the economic considerations, the argument for Centrex is that it gives customers great flexibility, they being able to combine their private network with public services in various ways under the same management system. For example, users of Centrex overseas point out that they are able to make staff savings by backing their system off to the public network overnight, or they use the public network as a disaster backup.

Interworking of systems such as Centrex and PABX usually introduces management problems: the name of this Centrex game is to take burdens away from the user and offer a significant alternative to multisite communications within a single company by avoiding the need for inter-PABX links or megalinks with use of VPNs, if possible. Inevitably, some users will want to integrate their Centrex service with existing corporate PABXs, which will require special user control software and access to both the CAT ports and the numbering and signalling schemes. And what then of the access and security?

For example consider the hypothetical situation of a large organisation in which, on Monday morning after a weekend security breach, the MD cannot make anything but local calls or worse still, cannot seize an outside line; the office girls may only receive calls, no ACD and so on. A total disruption to the business and a difficult one to correct quickly — to say nothing of the employment prospects of the now ex-communications manager. And why?

The class of service along with all the other functions controlled by the central computer in the PABX system is accessible via a normal terminal and now, at Telecom's desire, via modem access. The scope for misuse always exists; the scope for potential abuse is then only a phone call away.

Centralised management

Centralised management without either adequate protection or safeguards is a potential disaster for a corporation which believes new technology can provide that cutting edge for better business efficiency.

Management and control could naturally work more smoothly if it could all take place under the care of a central software control program. (The argument for centralised remote maintenance and CAT.) Telecom's umbrella, I hear you say?

The desire by Telecom to migrate users from investment in network equipment to use of public equipment parallels the continued desire to rebalance tariffs to allow the introduction of the ISDN, and it is not good news for private network constructors. Nor is it for Centrex when you consider the pain that Telecom is yet to go through in the experience of entering the corporate age. Both seem to go against the international trends for customer involvement in their networks and the investment in access equipment, control and management. And it is not going to get any easier!

The solution to security and network integrity problem is as complex as the problem to be solved. The current PABX and Centrex maintenance monopoly administered by Telecom is mooted to be changed to allow others, at the discretion of the equipment owner, to access the system control. Off-site access requires all the security that is afforded to the most secure corporate MIS system as a start. On-site terminals should be secure and the system passwords, if enacted, be changed as is normal DP practice. The sabotage and ex-employee potential problem is more subtle and can only be addressed with careful management, reporting and call reporting against number chargeback.

Lock up your CAT if security is a corporate goal!

- *Tom Amos is a partner in the Sydney-based telecommunications consultancy Amos Aked Swift.*

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Olex, a division of Pacific Dunlop Limited, has been in the communications business since 1943 and is a world leader in the design of optical fibre cable.

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Olex: Victoria (03) 316 2222; New South Wales (02) 648 5100; South Australia (08) 268 3266; Queensland (07) 265 2666; Western Australia (09) 353 1122; ACT (062) 80 4677; Tasmania (002) 34 4811.

Telinc ‘an important milestone’

By Trevor Jordan

CONSULTANTS are already writing “Telinc compatibility” into the specifications for their clients’ new PABX planning — but the industry still baulks at conforming to what amounts to a Telecom proprietary standard. Informed sources say all major PABX vendors have decided to boycott, for the time being, the Telecom protocol. The consensus is that vendors want to stay with the relatively stable CCITT standards and do not see any mileage in altering their equipment for the small Australian market. Telecom, on the other hand, has reasons of its own to persist with Telinc. . .

PABX users have been unable to date to enjoy the benefits of feature transparency in multivendor networks. Private networks have been restricted to the establishment and clearance of calls, with more complex capabilities not generally extendable beyond the boundaries of an individual PABX.

The biggest single problem facing major networking organisations has been that because of proprietary signalling protocols, it has been necessary for them to use equipment from the one PABX manufacturer to ensure full feature transparency.

The only solution available to an organisation which required a fully featured private network was to build the network using the same type of PABX at each node. This was not only an expensive solution, it also deprived the business of the opportunity to select the PABX which best suited the individual requirements of each site. This was particularly restrictive when a network consisted of one or two large sites surrounded by a number of smaller sites. Under these circumstances it was usually necessary to choose the type of PABX more suited to larger sites, leading to every expensive solutions for smaller sites.

The release of the Telecom ISDN specifications in 1986 provided a trigger for solving the problem. Because the ISDN does not differentiate between tie lines and switched calls, tie lines can have all the versatility of switched circuits in that they can be established and released on demand by the customer.

Telecom, as one of the largest PABX suppliers in the Australian market, and with an enormous depth of technical knowledge, was well placed to develop the required signalling protocols between PABXs and the ISDN. In early 1987 a group of experts was assembled to develop the ISDN Primary Rate access specification and adapt it to the needs of private network signalling. The ISDN Primary Rate access specification was chosen because it is a stable standard and would need to be implemented by any PABX vendor wishing to connect to the ISDN.

The result was Telinc, which was published for industry comment in April 1987 and was seen to be an important milestone in the development of private network signalling. Although Telinc is suitable for use in existing private network environments, it also has the ability to exploit the ISDN environment where private networks will be able to dynamically alter their configuration in response to traffic demand.

In developing Telinc, Telecom has achieved all of its primary aims:

- ■ Telinc is an open protocol and hence will facilitate full vendor independence for network operators.
- ■ Telinc has been developed as close as practicable to the CCITT ISDN standard and as such will necessitate minimum effort on the part of PABX manufacturers who wish to participate.
- ■ Telinc will operate over the existing analogue network and the upcoming ISDN network.

(Continued page 18)

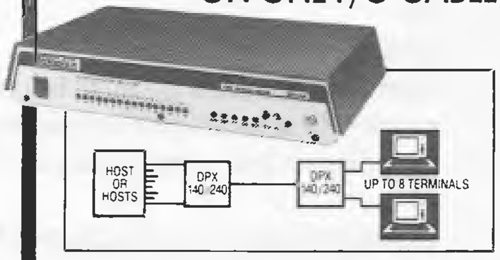
ENLIGHTENMENT

(or how to get the most out of optical fibres)

Fibre optic cables offer many benefits when compared to copper. They have greater carrying capacity, they weigh less, the signal is cleaner, security is superior and they are easy to install and connect.

Here are three ways to exploit the technology – with Dataplex designed and built products that are easy to use and have Telecom approval.

MUX/MODEM SUPPORTS 8 TERMINALS ON ONE F/O CABLE, SYNC & ASYNC



With the DPX-140 series of multiplexer/modems, you need just one in-house optical fibre cable to run any mix of up to 8 sync and async terminals.

Fully transparent and with data rates to 19,200bps, these multiplexers with their built-in modems allow rapid, economical terminal addition and reduce the optical fibre requirements for future installations.

The low cost, flexibility and performance of the DPX-140 series makes them ideal for universities, mine sites, factories and private networks to 3000 metres.

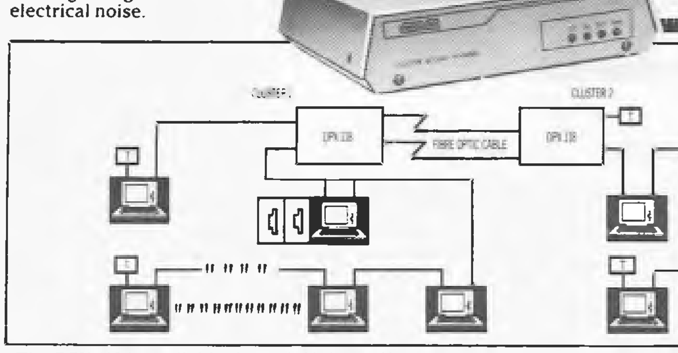
MODEM FOR CONVERGENT TECHNOLOGY WORK STATIONS. DATA TO 1000 METRES

A cleaner signal over a greater distance. That’s how the DPX-118 modem gets the most out of fibre optic technology.

Designed and built expressly for Unisys*, this high performance modem transfers data at speeds to 1,834Mbps up to 1000 metres without signal level deterioration – achieved through the modems ability to fully regenerate the signal amplitude.

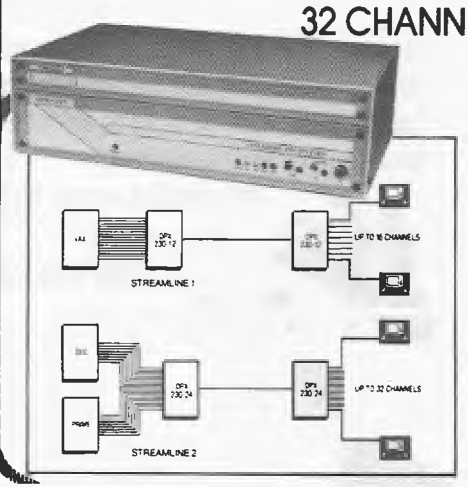
The DPX-118 also senses the link speed, changing automatically to support the variety of equipment that may be sharing the line.

The DPX-118 offers added protection to computing equipment from lightning or induced electrical noise.



* The DPX-118 is available through Unisys offices.

HANDS-OFF MULTIPLEXING TO 32 CHANNELS AT 19,200bps



With the DPX-230 series of mux/modems, it’s a case of one touch and you’re talking.

All you do is plug the user in – the low cost DPX-230 does the rest – automatically adjusting to any new channel speed or configuration.

And as your user numbers grow, you simply add expansion boards.

These powerful mux’s with their built in modems can support up to 32 channels, all at 19,200bps if you want to, on optical fibre cable.

With its own diagnostics and Telecom approval for in-building cabling and ADS lines, the DPX-230 series brings low cost hands off operation to local multiplexing.

Why not call us today. We can help you get the most out of any medium. Optical fibre, co-axial cable and twisted pairs.

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Data via PABX comes of age

By Ben Braeuer

DIGITAL PABX systems have been with us for more than five years, and yet data and communications managers have been reluctant to entrust more than small amounts of data traffic to their PABX systems.

However, a growing number of international companies are finding that to use the PABX system as a joint voice/data medium provides a degree of flexibility as well as an impressive array of data features.

One such convert is the giant Belgian chemical and pharmaceutical company, Solvay. Based in Brussels, with an R&D staff of 2800, the company has subsidiaries in 32 countries. Fast, smooth-flowing voice and data communication is a vital element in allowing this multinational company to retain its competitive edge in a cut-throat marketplace.

What Solvay's researchers wanted was simple, straightforward access to external databases and remote PCs, both nationally and internationally. Access via the Belgian DCS (X.25 packet switching network) and data security were also requirements.

The company chose the Siemens System 601 — combined with a Hewlett-Packard mini — as the link in providing it with the foundation for a secure communications future. Bill Claeskens, who handles telecommunications co-ordination at Solvay, said: "Our ideas took shape gradually, but Siemens has been extremely flexible and adaptable in its response. We had to link up computers, terminal equipment and peripheral devices from different manufacturers.

"The deciding factor was Siemens' experience in this field."

With System 601, Solvay can use its HP3000 computer as a server for electronic mailbox services. This application covers all of Solvay's Belgian branches. No matter where they work, users of this service can receive, send and process their mail electronically.

The connection of mainframes to System 601 allows computers to be used as servers. At Solvay, this gives researchers access to DEC Vax 8600 and Vax 760 equipment from their own workstations for scientific calculations. Networked DEC Microvax computers can be used as a central text-processing server and for calculating or simulating chemical fermentation processes.

Said Claeskens: "The ISDN will soon be here, and that is going to have a decisive impact on both private and public sector communication. But the Siemens System 601 is already allowing us to meet specific objectives in our plans to improve the efficiency of our voice and data communications and signifies an initial step into the future."

In Australia, key organisations are also entrusting their data communications to the PABX.

The National Safety Council, based in Sale, Victoria, deals with the various emergency services on a continuous basis. Here, communications efficiency and reliability is clearly a key issue. Out of 300 System 601 PABX extensions, one third are digital, providing direct terminal connection to the Council's DEC Vax 11/70 and Honeywell DPS6 data systems. Once again, a striking example of "faith in digital PABX technology".

On a worldwide basis, Siemens has sold more than 1.5 million lines of digital PABX equipment. The System 601 digital PABX is distributed by Telecom Australia.

- *Ben Braeuer is PABX marketing manager with Siemens Australia.*

Telinc 'an important milestone'

(Continued from page 17)

■ Within the ISDN network, Telinc will enable network operators to dynamically reconfigure their networks in response to variations in traffic demand.

While the industry was commenting on the first draft, Telecom was pushing ahead with work on the supplementary services which provide feature transparency in a private network.

The second draft was completed in August 1987 and by then Telinc contained some 30 supplementary services, ranging from the basic call transfer to the more obscure channel optimisation.

This time copies were distributed not only to Australian industry for comment, but also to network operators and equipment manufacturers in Europe and the US, where work on this topic was just beginning. (See also Nixdorf's comment, February *Communications World — Ed*).

The final version of Telinc will be released this month.

The development of Telinc has not only put Telecom Australia at the international forefront of private network technology, but will, in conjunction with the ISDN, provide Australian business with a level of versatility and flexibility that has not previously been available in private networks.

- *Trevor Jordan is in charge of PABX ISDN engineering with Telecom.*

If customers are desperate to get through to you, you need a new Telecom Commander System. Desperately.

Is it a minor miracle getting through to your business?

Professional companies answer their phones promptly, transfer efficiently, page simply.

All that. And more.

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But where is it written that you must be big to be professional?

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Change to EDI — or get changed

AT THE Atug show, a couple of IBM operatives were sniffing around to catch a whiff of where the Australian Electronic Document Interchange (EDI) scene was and who were the players in the budding local market. IBM's interest is not idle market research: there is a renewed upsurge of EDI enthusiasm in the US, as Kathy Chin Leong reports.

SAN FRANCISCO — Hal McDonald at 3M Corp issued a challenge here last month: "You either change or get changed. EDI will be an absolute business necessity for 1990."

But McDonald, 3Ms specialist for electronic data interchange (EDI), was preaching to the converted. More than 1000 users, vendors and consultants turned out for the Ansi X12 EDI conference, a first-time seminar that only 500 were expected to attend.

Momentum is building for the concept of electronic selling and trading with business partners. Nearly half the users at the show acknowleged that they had solid EDI installations or pilot projects at their companies and were seeking to expand their implementations.

Furthermore, high-profile companies such as 3M, Union Carbide, Eastman Kodak and Levi Strauss are making EDI a corporatewide commitment. Recent findings from a Coopers & Lybrand joint study with EDI Strategies in Marietta, Georgia, showed that more than 5000 US domestic companies are EDI users.

EDI users, vendors and consultants addressed the conferees with a sense of urgency to adopt EDI, declaring that now is the time to prove to senior management that EDI will give their businesses a competitive edge. They warned that as more corporations become EDI users, they will force suppliers and customers to comply.

"You cannot implement if you are sitting out in the woods somewhere and thinking about EDI," McDonald said. "You have to act."

There is a wellspring of concern among pundits that the standard must be a priority. "This is not a technical issue," Jack Shaw, president of EDI Strategies emphasised during the conference's opening session. "This is a business issue."

The study by EDI Strategies and Coopers & Lybrand discovered that in the automative, chemical, pharmaceutical and railway industries, EDI is a requirement for present and future business partners. "That is, you are at a severe competitive disadvantage if you are not already doing EDI," Shaw said.

The research, which included the responses of 600 companies, showed that by 1990, current EDI users will triple their number of electronic trading parters, and by 1990, it predicted, eight times as many companies will be using EDI, compared with 1987.

In its own analysis, Service Mechandise cut the price of a single purchase order transaction from $US50 to $US15 using EDI.

CALENDAR OF EVENTS

MAY

☐ **Software Developments** will present a range of Net/Master seminars in Sydney, Canberra, Melbourne, and Brisbane this month and next. Seminars include Net/Master NCL, Net/Master network problem determination, and Net/Master productivity and communications.

Software Developments: (02) 411 7200.

☐ **Charles Moore** who developed Forth will present the keynote address at the first Australian symposium on the Forth language and its applications at the University of Technology, Sydney, on **May 19 - 20.**

Information: UTS, Continuing Education Unit, (02) 20 930.

☐ **Housley Communications** is presenting two seminars with Anton Meijer, who participated in the early stages of IBM's SNA, and has since specialised in teaching SNA courses. The first is Open Systems Interconnection (Melbourne **May 30 - 31,** Sydney **June 6 - 7,** Cost $A595 & $A495 discount) and the second is Network Management, (Melbourne **June 1 - 3,** Sydney **June 8 - 10,** Cost $A795 & $A695 discount). Five-day combined cost is $A1035 & $A985 discount.

Information: Housley Communications: (02) 498 7877, (008) 22 6776.

JUNE

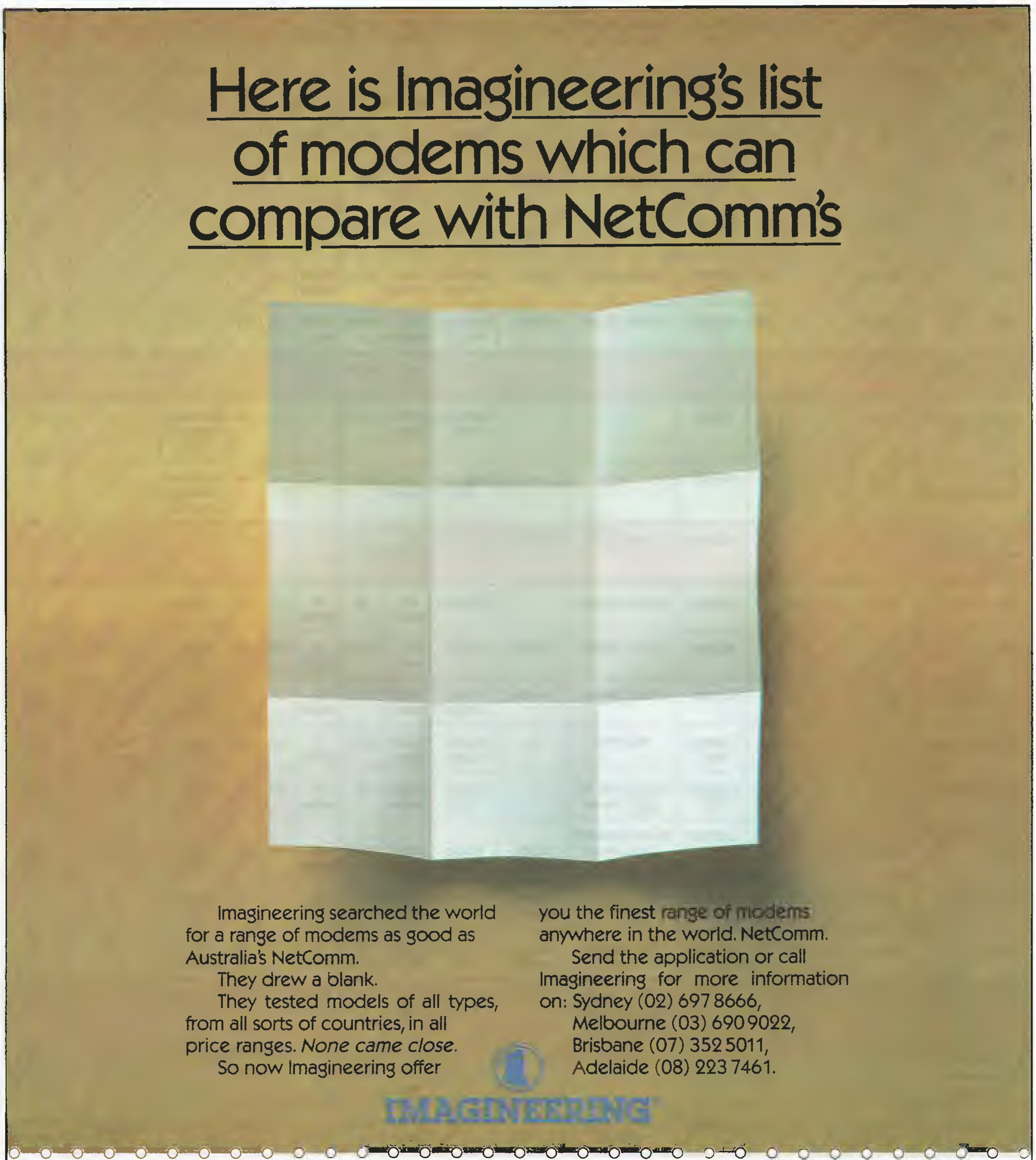
☐ **The Enterprise Networking Event '88 International** will be held in Baltimore, Maryland with the theme, OSI solution to enterprise-wide communications.

The five-day ENE'88 Conference will complement the floor activities by offering a comprehensive technical program, including focus sessions featuring MAP/TOP/OSI technology. A variety of intensive full-day tutorials and workshops is on offer.

Honeywell-Bull, the vendor and installer of Telecom Australia's public electronic-funds-transfer-at-point-of-sale (EFTPOS) network, will demonstrate a range of OSI compliant products.

The conference runs **June 5 - 9,** the exposition **June 6 - 8.**

Information: The MAP/TOP Users Group, One SME Drive, PO Box 930 Dearborn, MI 48121; Tel (313) 271 1500; Fax 271 2861; Telex 297742 SMEUR.



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MATTINGLY IMI01CM

Product Update on X.25 PADs

Vendor/Product	Maker	Links (X.25-composite trunks)	PAD ports (asynch)	Channels (virtual-ccts per link)	CCITT protocols	Terminal emulation	Protocol conversion	Interface	Line speed	Packet size (bytes)	Throughput	Calls/sec	X.25 switching	Options	LAN support (if PC card) Operating system	LAN compatibility	Simult. sessions	# sessions/user	Nodes supported	Applications supported	Comment	Price
Case — Multi-node Switch/PAD	Case	2-42	1-40	2-42	X/25/28/29/3	—	—	X.21, X.21 bis, V.35	64K-bits/sec	128-1024	300 pkts/sec	—	Yes	—	—	—	—	—	—	—	Fast select closd user group	POA
Micro-Pad X.25/X.32 modem enhancer	Case	—	1	2	X/25/28/29/3	—	—	X.21 bis	1200/ 2400-bits/sec	128 or 256	—	—	No	time of day module, extended RAM for Statistics	—	—	—	—	—	Austpac, Private network	Enhances Hayes AT modem to give X.32 access	POA
Databridge — Europad III	Quest Telematique	—	4-16	—	X/25/28/29/3	—	—	—	19.2K-bits/sec	to 256	—	—	No	—	—	—	—	—	—	—	PAD	POA
ECOM 25	Quest Telematique	8-120	—	—	X/25/28/29/3	—	—	—	72K-bits	to 256	<600 pkts/sec	—	Yes	—	—	—	—	—	—	—	Concentrator switch	POA
Datacraft — Top 25	Topcode	1	—	1	X.25	IBM 3278/3287, DEC VT-100/52	—	X.21 bis	9.6K-bits/sec	128	—	—	No	—	Netbios	—	8	—	—	3270 SNA/ QLLC, 3270	—	$1000-2000
MB2/PAD	Micom	1	16	17	X/25/28/29/ 3/121	VT100, Televideo, Wyse, Qume, etc	—	RS-232	9.6K-bits/sec	128/256	—	—	No	—	—	—	—	—	—	Austpac, Private net	—	$2500-6500
1500	PCI	1	7	6	X/25/28/29/ 3/121	VT100, Televideo, ADM, Wyse, Qume, etc	—	RS-232	9.6K-bits/sec	128/256	—	—	No	—	—	—	—	—	—	Austpac, Private net	—	$2000-3500
2000	PCI	16	27	28	X/25/28/29/ 3/121	VT100, Televideo, ADM, Wyse, Qume, etc	—	RS-232, V.35	64K-bits/sec	16-4096	4500 char/sec	8	Yes	—	—	—	—	—	—	Austpac, Private net	Smartview Network Management	$8000-17500
3000	PCI	16	24	28	X/25/28/29/ 3/121	VT100, Televideo, ADM, Wyse, Qume, etc	—	RS-232, V.35	64K-bits/sec	16-4096	14,000 char/sec	20	Yes	—	—	—	—	—	—	Austpac, Private net	Smartview Network Management	$12,000-22,000
4000	PCI	10	16	20	X/25/28/29/3	VT100, Televideo	—	RS-232/422	64K-bits/sec	16-4096	5800 char/sec	10	Yes	—	—	—	—	—	—	Austpac, SNA/ SDLC, Private	Smartview Network Management	$5000-10,000
S200	Telematics	—	—	34	X/25/28/29/ 3/75	VT100/52, IBM 3278	3270 SNA	RS-232/449, V.24, V.35	64K-bits/sec	16-4098	13,000 char/sec	8	Yes	—	—	—	—	—	—	SDLC/QLLC, 3270 DSP	—	$30,000-50,000
S600	Telematics	—	—	128	X/25/28/29/ 3/75	VT100/52, IBM 3278	3270 SNA	RS-232/449, V.24, V.35	250K-bits/sec	16-4098	52,000 char/sec	10	Yes	—	—	—	—	—	—	SDLC/QLLC, 3270 DSP	—	$80,000-120,000
S1000	Telematics	—	—	480	X/25/28/29/ 3/75	VT100/52, IBM 3278	3270 SNA	RS-232/449, V.24, V.35	250K-bits/sec	16-4098	120,000 char/sec	30	Yes	—	—	—	—	—	—	SDLC/QLLC, 3270 DSP	—	$110,000-150,000
S2000	Telematics	—	—	480	X/25/28/29/ 3/75	VT100/52, IBM 3278	3270 SNA	RS-232/449, V.24, V.35	250K-bits/sec	16-4098	120,000 char/sec	30	Yes	—	—	—	—	—	—	SDLC/QLLC, 3270 DSP	—	$140,000-150,000
Dataplex — TX-700	Comdesign	1	1	4-32	X/25/28/29/ 3/121	—	—	X.21 bis	64K-bits/sec	128/256/ 512	4400 char/sec	32	No	—	—	—	—	—	—	Access/X.25	—	From $3400
Gandalf — Mux 2000 XMUX Switching X.25 PAD	Gandalf	2	—	32	X/25/28/3	—	—	RS-232, V.24/ 28/35	to 73.6K-bits/sec	16-256	—	—	Yes	Synch/asynch switching stat mux s/w	—	—	—	—	—	—	—	POA
Mini Mux 2000 XMUX Switching PAD	Gandalf	1	—	16	X/25/28/3	—	—	RS-232, V.24/ 28/35	to 64K-bits/sec	16-256	—	—	Yes	Synch/asynch switching stat mux s/w	—	—	—	—	—	—	—	POA
Icot Network Systems INS X.25 Network Adaptor	INS	—	—	—	X/25/28/29/3	3278/3279/3287	SNA/SDLC	X.21 bis. X.21	19.2K-bits/sec	256	—	—	—	—	PC/MS Dos 2/3.3	Netbios	—	—	—	—	—	POA
JNA — Megapac J	JNA	4-22	4-20	—	X/25/28/29/3	Asynchronous devices	—	X.21 bis, X.21	64K-bits/sec	128	50 pkts/sec	20	Yes	LCD panel	—	—	—	—	—	—	—	POA
Megapac PC	Elcom technology	1	N/A	—	Ref s/ware	VT52/100, 3278/9 etc	SNA/SDLC	X.21 bis	to 64K-bits/sec	128-1024	70 pkts/sec	N/A	N/A	File tran. Bridges	Dos 2, 3.3	Netbios, Novell	32/ 254	9	—	—	MC68000 = 256/512K-bytes	POA
Megapac Dial PC	Elcom technology	1	N/A	—	Ref s/ware	VT52/100, 3278/9 etc	SNA/SDLC	X.21 bis, V.22 bis	to 19.2K-bits/sec	128-1024	70 pkts/sec	N/A	N/A	File tran. Bridges	Dos 2, 3.3	Netbios, Novell	32/ 254	9	—	—	MC68000 = 256/512K-bytes	POA
Megapac PC-Access/ X.25	Elcom technology	1	N/A	—	X./25/28/29/ 3/121	VT52, VT100	—	X.21 bis, V.22 bis	to 19.2K-bits/sec	128-1024	70 pkts/sec	N/A	N/A	Call Dir. Hot Key	Dos 2, 3.3	Netbios, Novell	—	—	—	—	Menu Driven, Background operation	POA
Megapac PC-Access/ SDLC	Elcom technology	1	N/A	—	X./25/28/29/ 3/121	IBM 3274, 3278/9, 3287, 3270-PC, File-Tran	—	X.21 bis, V.22 bis	to 19.2K-bits/sec	N/A	70 pkts/sec	N/A	N/A	Call Dir. Hot Key	Dos 2, 3.3	Netbios, Novell	32/ 254	9	—	—	Menu Driven. Background operation	POA
Megapac PC-Access/ QLLC	Elcom technology	1	N/A	—	X./25/28/29/ 3/121	IBM 3274, 3278/9, 3287, 3270-PC, File-Tran	QLLC & DSP/DSI	X.21 bis, V.22 bis	to 19.2K-bits/sec	128-1024	70 pkts/sec	N/A	N/A	Call Dir. Hot Key	Dos 2, 3.3	Netbios, Novell	32/ 254	9	—	—	Menu Driven, Background operation	POA
Megapac V/21	Satelcom	to 72	to 128	—	X./25/28/29/3 OSI Trans	Async. Honeywell, VIP (soon)	Transparent mode SDLC	V.21, V.21 bis, V.35	to 154K-bits/sec	32/64/ 128/256	1100 pkts/sec	60	Yes	IEEE 802.3 interface	N/A	N/A	N/A	N/A	—	—	Concurrent access to SNA/Bysnc/X.25 Hosts	POA
Megapac V/6	Satelcom	to 16	to 32	—	X.25/28/29/3 OSI Trans	Async, Honeywell, VIP (soon)	Transparent mode SDLC	V.21, V.21 bis V.35	to 154K-bits/sec	32/64/ 128/256	1100 pkts/sec	60	Yes	IEEE 802.3 Interface	N/A	N/A	N/A	N/A	—	—	Protocol Independent Switching	POA
McDonnell Douglas Pico — Engine	Tymnet	—	8 (6-V.24, 2-V.35)	—	X./25/28/ 29/75	Over 70 inc-Lear Siegler ADM series; Teletype 5420/25, Televideo 920-970	Over 30	EIA RS-232C, V.24, 35	to 64K-bits/sec	128	10,000 char/sec	—	Yes	All ports s/w definable	—	—	—	—	—	—	Fully functional nodal processor-operate as PAD, Switch, IBM interface	POA
Micro Networks — G/remote bridge	Micro Networks	—	2	1-64	X./25/28/29/3	—	—	X.21 bis,	to 19.2K-bits/sec	32-1024	—	—	Yes	—	Novell Netware, PC/MS Dos	Any netware based LAN	64 per card	—	—	—	—	$3295
G/X.25 gateway	Micro Networks	—	2	1-64	X/25/28/29/3	Tandem, VT100, VT220 etc	—	X.21 bis	to 19.2K-bits/sec	32-1024	—	—	Yes	—	Novell Netware, PC/MS Dos	Any netware based LAN	64 per card	—	—	—	—	$5595
Scitec — C.S.I. PAD	Scitec	1-2	8-16	1-64	X./25/28/29/3	—	—	X.21 bis	to 64K-bits/sec	16-256	70 pkts/sec	—	—	Auto connects	—	—	—	—	—	—	—	POA
MDX5000	Scitec	1-36	4-288	1-64	X./25/28/29/ 3/21	—	—	X.21, X.21 bis	to 256K-bits/sec	256	80 pkts/sec	—	—	Local switching	—	—	—	—	—	—	—	POA
MDX150	Scitec	1-2	4-16	1-64	X./25/28/29/ 3/21	—	—	X.21, X.21 bis	to 256K-bits/sec	256	80 pkts/sec	—	—	Speed connects	—	—	—	—	—	—	—	POA
Timeplex Australia — Timeplex MX PAD	Timeplex	2	—	4-48	X./25/28/29/3	—	—	X.21 bis	19.2K-bits/sec	32-256	19 * 128 pkts/sec	48	No	—	—	—	—	—	—	—	Virtual configuration, Port Access	POA

This product table is based on information obtained from a survey of vendors conducted between March 5 and April 5, 1988. All details should be checked with the companies as listed.

Sun out to set industry standard

SYDNEY — Targeting a growing demand for networking diskless workstations in a multivendor environment, Sun Microsystems has announced its Netdisk network service with the latest release of the Sunos (Unix V.3/BSD 4.3) operating system.

Sun is seeking to set another industry standard with its new offering, which is part of its widely licensed Open Network Computing (ONC) array of networking services.

Best known among these services is the industry-standard NFS (Network File System) application, which is supported by 110 vendors.

Sun says 28 companies have already announced support for Netdisk, including Alliant, Amdahl, CCI, Celerity, Convex, Cray, DEC, Gould, Pyramid and Sequent.

With the new service diskless workstations can be served by any server supporting Netdisk — even an Amdahl mainframe or a Cray supercomputer — and any server can serve diskless workstations from any vendor supporting ONC/Netdisk.

The diskless stations can boot up from any supporting server in a multivendor environment, and can swap tasks in and out of local memory to and from the server.

Sun Microsystems (Australia) managing director Val Mickan said Netdisk for the first time provided a "standardised method of supporting diskless computing platforms".

Until now, users needed a dedicated server for each type of diskless workstation they bought.

Using Netdisk, they could now standardise on a single server architecture if they wanted.

By teaming up diskless workstations under Netdisk, users could also "leverage existing investments in timeshared systems," said Mickan.

Pointing to Sun's News user interface, NFS and the Sparc architecture, Mickan said Sun had "had notable successes in setting standards where there were none."

Netdisk is a standard part of Sunos 4.0, and Netdisk server support is available to NFS licensees who want to base diskless workstations on the technology. From August, clients can obtain source code support, according to Sun's technology licensing division.

Sunos 4.0 also includes a new virtual memory management system said to unify and simplify memory and file management and yielding improved performance.

Sun — taking a leaf from Hewlett-Packard's new book on "seamless integration" — claims the operating system now "provides a unifying architectural layer for source-level compatibility across different hardware systems", from the Motorola 680X0-based Sun-2 and Sun-3 families, the Sparc-based Sun-4 and the new Sun386i "corporate workstation" based on the Intel 80386 CPU.

The Sun386i can run Sunos and MS-Dos simultaneously, letting users cut and paste between windows of the different operating systems, and comes with builtin Ethernet, SCSI connector, and serial and parallel ports.

Among its builtin utilities is automated configuration as a network node.

Sunlink software lets the Sun366i emulate an IBM cluster controller or an end node in a DECnet system. Access to X.25 networks is possible via Sun-3 or Sun-4 stations.

The Sun386i has three AT and one XT-type expansion slots and is available in a variety of configurations including a 3-Mips diskless version that lists at $A15,980.

The Sun 386i workstation

Datacraft additions to network range

MELBOURNE — Datacraft has announced a range of 2M-bit/sec integrated networking products including the Megacraft 3600 bandwidth manager, the Megacraft 3630 primary rate multiplexer, the Flexicraft 2600 Series of ISDN data termination units, and the Netcraft 4601 and 4602 network managers.

The 3600 handles up to 16 Megalinks and provides low-speed analogue voice and digital data interfaces including 2B+D termination. The 3630 handles one or two 2M-bit/sec interface connections for public or private networking.

The 2600 Series is intended for premise distribution of 128K-bit/sec data via telephone wiring.

Datacraft: (03) 727 9111

Primary bridge

SYDNEY — Austral Data Networks has released the Isolan internetwork primary bridge, designed to extend local-area networks in both reach and bandwidth. The bridge contains a new device, dubbed, a content-addressable data manager, which is used in a filtering database application to inspect destination addresses of each data packet and to allow only qualified traffic to pass from one network to the other.

Up to seven such bridges can be used, and the vendor claims that this enables Lans of up to 20km diameter to be constructed. The bridge, which uses a Motorola 68000 series CPU, operates at the OSI data link layer and transparently interworks with industry-standard protocols.

Austral Data Networks: (02) 488 8799

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ADVANCED TECHNOLOGY ADVERTISING/CASROD193

More support for OS/2, Lan Manager

By Pam Powers

NEW YORK — Tandem Computer and Ungermann-Bass were among nearly 30 vendors that announced support for OS/2 and Lan Manager during the Microsoft Advanced Network Development Conference here recently.

Under an OEM agreement, Ungermann-Bass will market a version of Lan Manager for OS/2-based servers in its Net/One networks. The version will run on IBM and compatible personal computers, IBM Personal System/2s and Ungermann-Bass Universal Workstation Series devices. Lan Manager is Microsoft's OS/2 net software.

Ungermann-Bass's Net/One product line supports the MS/Net network operating system and a wide variety of network topologies, including Ethernet and token ring. The Net/One architecture is designed to allow users to pull together a multitude of local networks and workstations into an enterprisewide network.

Ungermann-Bass' Lan Manager software, slated for third quarter availability, will allow users to take advantage of standard Net/One features such as security and network management, said Georgeanne Benesch, Ungermann-Bass group product manager.

Benesch said the first release of Lan Manager will support the Xerox Network System (XNS) and Transmission Control Protocol/Internet Protocol. "As a statement of direction, we have said we intend to support Open Systems Interconnection and Advanced Program-to-Program Communications," Benesch said.

Tandem announced that Ungermann-Bass' version of Lan Manager will work with its Multilan hardware and software products and said it will support OS/2 on its PSX line of IBM Personal System/2-compatibles and its 6AX line of IBM AT-compatible workstations. Tandem's merger with Ungermann-Bass is expected to be completed on June 30.

Multilan products allow a Tandem minicomputer to act as a fault-tolerant server for Network Basic I/O System-compatible personal computers on local networks such as those offered by the Sytek, 3Com Corp and Ungermann-Bass.

"The purpose of Multilan is to tie as many local networks into the Tandem environment as possible," said Bill Terrill, Multilan product manager.

Additionally, the company said it will provide, also in the third quarter, an OS/2 version of terminal emulation and file transfer software for personal computers linked to Tandem workstations.

Tandem's adoption of the Ungermann-Bass version of Lan Manager will allow Multilan to extend the same features to OS/2-based workstations as it extends to Dos-based networks today, a spokesman said.

Tandem will start working on Lan Manager support when Ungermann-Bass introduces its version in the third quarter, Terrill said.

Tandem's support of OS/2 on its 6AX and PSX workstations will facilitate its online transaction processing at the desktop level by giving personal computers more power to help the host with applications processing, he said.

In a press conference here last Tuesday, Ungermann-Bass president and chief executive officer Ralph Ungermann said users prompted the company's move to support Lan Manager. "We sell to some of the world's largest companies, and virtually every one has asked us when we will support OS/2 and Lan Manager."

Benesch said Ungermann-Bass will continue to support MS-Dos workstations, but she predicted a gradual user migration from Dos to OS/2. Whereas Dos is a single-tasking system, OS/2 has multitasking capabilities, so users can gather data from the host while running spreadsheet or word processing programs on their workstations.

In addition, Benesch said OS/2 supports addressing of up to 16M-bytes of memory in the personal computer, far exceeding the capabilities of Dos.

Doug Gold, manager of Communications Industry Research at International Data Corp in Framingham, Mass, suggested that the Lan Manager craze may be much ado about nothing.

"This is a lot of chest-thumping on Microsoft's part to get momentum for Lan Manager," Gold said, "but there is no actual applications software written to Lan Manager, and when the extended edition of OS/2 is released, it could become the preferred multitasking alternative."

Version 1.3 is path to Lan Server

IDG News Service

MENLO PARK, California — Dos users of IBM's PC Lan Version 1.3 will find the program provides some OS/2 features as well as improved ease of use and security, according to one of its developers.

Version 1.3, available in July, was announced as the migration path to IBM's Lan Server program, which will be available this November. The program allows Dos and OS/2 workstations to co-exist on a Token-Ring network or PC Net Lan with the Lan Server.

The new features, which IBM calls extended services, include improved security, server transparency, and support for some of the new OS/2 "net" commands, according to Roy Feigel, a PC Lan program developer at IBM's Entry Systems Division, in Austin, Texas.

Server transparency, which IBM calls "single-system image view," means a Lan could have multiple servers, but users only need to log on once and need not realise the other servers are there, Feigel said.

Previous versions required users to run the "net use" command and assign themselves a virtual disk drive on the server.

"With Version 1.2, you had to know a little bit about what you were doing," Feigel said. With Version 1.3, the system administrator does this.

The new program will also allow users to start and stop server and requester processes independently. Previous versions would not support a server process without a requester process.

Products boost APPC program connections

FARMINGTON, Connecticut — Packet/PC Inc has announced products that give users asynchronous dialup connections for APPC applications and increase security when used with the company's 3270 micro-mainframe communications program. Previously, companies wanting to operate IBM's APPC-based programs were limited to either a PC connected on a Lan or an SDLC-attach PC, the company said.

With PKT/6.2, asynchronous dialup connections are supported via a public or private packet network to allow the use of LU6.2.

Based on a full-duplex, error-checking protocol, the PKT/6.2 program consists of a Vtam application residing on the mainframe and a PKT/6.2 program on the remote PC, the company said. Communication between the mainframe and the remote PC is provided through IBM's NPSI and a packet network.

Providing additional security for asynchronous 3270 micro-mainframe access via packet networks, Packet/PC also announced Crypto/3270, a package that was developed with Algorithmic Research of Israel for use with their Packet/3270 product.

Crypto/3270 uses the US National Bureau of Standards' Data Encryption Standard and Algorithmic's RSA public key cryptosystem, which eliminates the need for identical key exchange numbers.

With the RSA system, users have both a public and a private key. The public key is used to send encrypted documents from the PC, and the private key is used to decode an encrypted message.

Other features include access control and digital signature, a group of numbers that are unique to each user.

For additional security, a smart card, which is the size of a credit card, is used in conjunction with a smart card reader, a small box attached to the PC via a cable. When a user logs on to the 3270 program, he is requested to insert his smart card into the reader for identification.

The security package also includes a Cryptoboard that resides in the PC and Crypto software.

Both PKT/6.2 and Crypto/3270 will deliver next month. Prices were not set at press time.

Packet/PC Inc, 270 Farmington Ave, Farmington, CT06032. Tel: 0011 1 (203) 678 1961.

Daft by name but not by nature

By Josh Gonze

BIRMINGHAM, UK — Comendec Ltd recently unveiled a file-transfer package for DEC Vaxes and Datapoint microcomputers linked in Datapoint Arcnet local networks. The Daft package is designed to provide file-format conversion for transfer of text files.

It also provides file compression and decompression, since Datapoint computers utilise a compressed method of data storage, according to David Briggs, creator of the file-transfer package.

Daft supports automated file transfers that can be scheduled at the user's discretion. It works in binary mode for increased speed and can perform offline format conversion. The user interface on the Vax side is similar to DEC's Digital Command Language interface.

The package works with the Q-bus and Unibus configurations of the entire line of Vax and Microvax computers, but it does not work with the BI-bus. On the Datapoint side, it works with either of Datapoint's two proprietary operating systems, RMS and Datapoint Dos.

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Capacity planning is the essence

By Eric Schmall

BOIL down telecommunications management to its essence and you will find it is largely a question of sophisticated capacity planning. Aside from outright communications failures, all chronic and acute telecommunications crises find their origin in this primordial function.

To be effective in this trade, a manager has to understand the increasingly complex components of successful capacity plans and be able to persuade key decision-makers to provide for more resources when the organisation begins to approach a critical threshold. But even these skills are not enough. Communications professionals have to understand their particular organisation's culture so they can avoid the most dangerous syndrome in capacity planning: the Cassandra Complex.

That Trojan figure was given the power of prophecy by Apollo. Later, when he grew displeased with her, Apollo poisoned the gift so that despite Cassandra's ability to speak the truth, no one ever believed her. Communications managers can encounter this same tragic fate if they cannot understand, organise and articulate issues for senior management.

People in telecommunications face a Malthusian problem of exponential growth in demand for information transport, balanced against a decidedly exhaustible supply of this indispensable commodity. Keeping PABX viable or a data network from collapsing under the strain of constant growth requires ongoing study of the interrelated issues of technology and change.

At the simplest level, one has to have a fundamental grasp of how the hardware hangs together. Most managers can easily recite the dependent parts of a PABX (station card connected to the carrier, carrier connected to the carrier shelf and so on). However, when major communications systems are linked, a newer appreciation of capacity needs to come into play.

For instance, when a voice-mail system is installed within a PABX, new complexities and subtleties are introduced into the equation. Fundamental flows and patterns can be changed by such a union, relaxing pressure on one part of the system while introducing unexpected strains elsewhere. An even more dramatic system disruption can occur when a new function is introduced.

Pumping data through a PABX engineered for voice traffic will unleash any number of unplanned capacity problems involving the architecture of the machine. Misunderstanding these critical relationships may ultimately result in a crisis that will come back to haunt the telecommunications manager, when some component of the communications complex suddenly overflows its buffers.

Beyond the need for deeper comprehension of the cascading effects of change, a manager has the larger responsibility of establishing some form of credible capacity management and keeping senior management comfortable with it. At the core of this requirement is a need for senior staff's basic understanding of the systems, the planning interface and a regularly scheduled update on how capacity is tracking according to plan.

Did DEC dabble in dirty tricks?

(Continued from page 24)

ment. The company would "not let a lawsuit stand in the way of innovation".

Openview is the other string to HP's user interface bow, and while this one is still being "tensioned" for release, programmers can already buy a developers' kit for $US1000 to write to what I must class as the most elegant and intuitive network management system I have yet seen.

A tantalisingly brief demonstration at HP's Palo Alto facility gave the barest outline of what this network map-based system can do, and it was not even a live network demo but a windowing IBM 3270 emulation.

But if Hewlett-Packard can persuade the standards bodies to base the emerging OSI network management user interface on such a so-called "non-standard data search service", network managers can count themselves lucky.

A Logica consultant among the viewers praised HP's approach and said this was "the shape of things to come", even for IBM. As it is, Openview already has some hooks to IBM's Netview, and any vendor can write to the HP interface.

Openview is based on a common syntax and common symbols and menus describing network entities and properties and accessible via SQL database calls, with the information displayed *a la* Macintosh, complete with pull-down views and dialogue boxes.

Network maps can scroll, pointing and clicking select views — you can zoom in on any specific network area down to the device level — and double clicking on an object pulls up its characteristics, letting the user change data rates, port numbers and so on, via dialogue boxes.

Device status is displayed on the map in appropriate colors, and users can let Openview perform specific diagnostics in background mode while concentrating on other aspects of the network. Powerful stuff, and well presented.

Integrate Openview with New Wave, as HP intends to achieve at some future stage, and you could end up with an irresistible combination, from the user's point of view. One can only wish that the Apple-DEC alliance will submit to the user view.

NB: At the recent Atug show local datacomms vendor JN Almgren showed a nifty graphics-based program for managing its packet switches and port concentrators, and so on, complete with maps of Australia on which to delineate your network.

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LEADERS IN MODEM COMMUNICATIONS

Did DEC dabble in dirty tricks?

By Luis Huesch

SYDNEY — Speculation is rife about the objectives and possible consequences of Apple Computer's law suit against Microsoft and Hewlett-Packard — but, strangely, not about its *origins.*

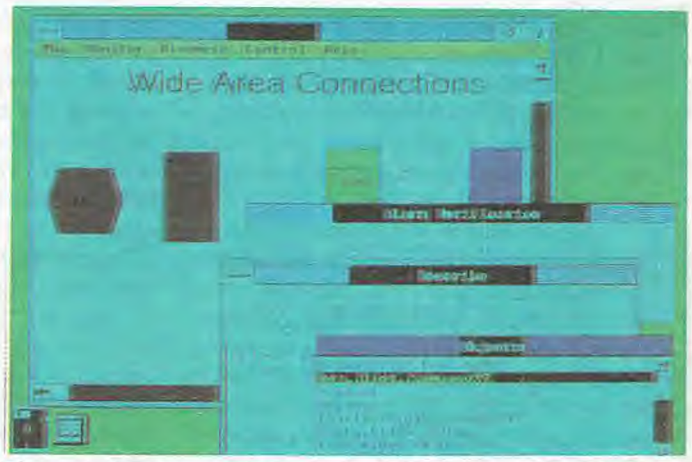
Yet when HP flew some 100 correspondents and consultants to New York recently for its $US1 million launch of a seamless computer line that puts a cat among the pigeons of key mini and mainframe competitors, it was hard not to visualise DEC as the real instigator of the suit.

I put the speculation to HP's Bob Frankenberg, and lo, the same thought had occurred to him also. Ganging up with its new-found desktop ally, Apple, would make excellent sense for DEC, as much as it does for Apple.

Look at it this way — sneaking up on Digital and IBM (behind the facade of an instrumentation maker that talks computers only with its satisfied customers, HP has forged its RISC-based HP 3000 family into a cohesive offering claimed to cover not only IBM's disparate mini-to-midrange mainframe lineup but all Vax systems.

Couple this with a one-stop user interface for the entire range, New Wave, and the tantalisingly close and tempting Openview graphical network management system; throw in smooth field upgradability and low maintenance; add customer code porting (35 million lines to date!), multivendor networking, program-to-program PC-mini integration; stir in Datapro's top quality ratings and dress the lot with cost savings of 50 per cent over competitive products and you have the recipe for panic aboard the Merrimack.

Why, a HP 3000 Series 935 business machine that can serve up to 240 users and is no bigger than a small stack of standard manuals, a veritable "Vax in a shoebox", is pitted against DEC's 8550 in performance yet costs less than a quarter of the Vax.



The windowing environment of HP Openview Windows allows multiple network management tasks to be performed simultaneously from a PC.

If DEC's strategists were to lay a minefield against the advance of what HP CEO John Young has called his company's "spring offensive", where would they start?

Where does this new and dangerous enemy most openly show his face?

Well, on the users' screens, wouldn't you say? Having a consistent graphical user interface such as NewWave across the entire HP range could tip the balance in the confrontation at the customer site, all other things being equal — and on the face of it, they are not.

Seybold's Michael Milliken believes the industry is "on the brink of a new architecture: distributed network computing with a single user interface". And here, while "other vendors slough off, HP is in a better position than others."

He lauded New Wave as "a visionary, qualitative advance", assuring the assembled journalists and consultants it "far transcends Apple, it leapfrogs Apple".

According to Frankenberg: "The real issue (in the copyright suit) is our innovative technology." Building on MS Windows, New Wave reportedly provides transparent access to communications through a set of facilities built behind it and offers bridges to other vendors' electronic mail — soon to include X400 messaging — as well as voice messaging and voice annotation integrated into HP Mail.

Resource sharing ranges from system-wide help to downloading corporate data into local spreadsheets. New Wave, as the user interface "bridge", is said to allow splitting programs across a network from PCs to minis.

Hewlett-Packard intends to market its run-time New Wave package for $US195 late in the northern summer. A version for departmental Unix machines, running under X-Windows, is slated later. It reportedly will let users execute a Unix application across a network by simply double-clicking on an icon. Third-party New Wave applications such as the voice mail prototype shown in New York (from Forum Systems) are also due out in the summer.

According to Frankenberg, it was interesting Apple had not asked for a preliminary injunction to prevent HP from selling New Wave developer kits, which he said would have been normal.

Frankenberg said HP has sold "well over 100 kits, many to other computer vendors", and the rate of sales had more than doubled since Apple brought the suit. HP did "not really know what Apple wants" and did "not believe there is any merit whatsoever in the law suit".

HP — which has since asked for an extension of time to reply to Apple's charges — would "fight vigorously", license New Wave broadly and seek its adoption as an industry standard applications environ-

(Continued on page 23)

Dunlop strengthens its grip on corporate communications

"In today's world, business stands or falls by the effectiveness of its communications..."
- John Gough, former Managing Director of Pacific Dunlop (ATUG'87 keynote address).

When the Tyre Division of Pacific Dunlop and Goodyear united to form South Pacific Tyres (SPT), they identified the unincumbered flow of information between more than 500 locations throughout Australia, New Zealand and PNG as vital in achieving corporate success in a competitive market.

With over eighty of their primary centres in constant communication with Head Office, efficient self-control of the network is as important to SPT as minimising line-costs.

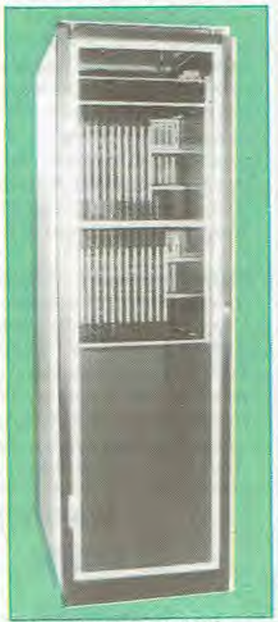
After an in-depth industry survey they selected JNA's AS100 Digital Circuit Switch and Network Management System to be central to their network control.

Designed and manufactured in Australia, the AS100's 'non- blocking' architecture enables SPT to maintain and control access to computer resources in a highly flexible and cost effective manner.

Powerful automatic line monitoring in the AS100 takes the headache out of managing SPT's advanced network.

Lower line costs are enabled through full use of Telecom's Netplex service. All the data traffic from SPT's eighty primary centres is concentrated through only twelve AS100 48Kbps Netplex trunks, using the CCITT X.22 interface standard.

At South Pacific Tyres, and many other organizations large and small, the AS100 has proven itself a vital and effective backbone in their goal of improving corporate communications.



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